DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
INTEGRATED PRODUCT TEAM WEST
2001 JUNIPERO SERRA BOULEVARD, SUITE 600
DALY CITY, CALIFORNIA 94014-1976

IN REPLY REFER TO:

Ser 05/744
October 31, 2005

Mr. Phillip A. Ramsey
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: PRE-SIGNATURE FINAL ACTION MEMORANDUM FOR TAYLOR BOULEVARD BRIDGE (SITE 30), NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA

Dear Mr. Ramsey,

In accordance with Sections 10.2 (b) and 10.7 (b) of the Federal Facility Agreement (FFA), enclosed please find for your review the unsigned "Final Action Memorandum for Taylor Boulevard Bridge (Site 30), Naval Weapons Station Seal Beach Detachment Concord" (final Action Memo). The document is also available for electronic download from the following Internet site: ftp://ftp.ttemi.com/ (file name "FinalAMSite30.pdf"). The current Site Management Plan (SMP) has November 1, 2005 as the due date for this final Action Memo as well as the Navy's responses to comments on the draft Action Memo. (The Navy's responses to comments on the draft version are contained in Attachment C of the enclosed final Action Memo.) The SMP has November 22, 2005 as the target date for the Navy's signature on the final Action Memo. Thus, as planned in the SMP, the purpose of providing the enclosed pre-signature final Action Memo is to give the U.S. Environmental Protection Agency (EPA), and others who have commented on the draft Action Memo, the opportunity to provide feedback on the adequacy of the Navy's revisions in response to comments on the draft, prior to Navy signature.

Given the substantial changes in the final Action Memo, and the Navy's, EPA's and other agencies' goal of having this non-time-critical removal action serve as the final action for Site 30, it is important for the Navy to obtain your feedback. In order to meet the current SMP target date for signing the Action Memo, we request your feedback on the enclosed by November 15, 2005. If there are any questions regarding the enclosed document, please contact me at telephone No. 650-746-7451 or Internet e-mail: stephen.f.tyahla@navy.mil.

Sincerely,

Stephen F. Tyahla, P.E., CHMM
Lead Remedial Project Manager

October 31, 2005

Re: PRE-SIGNATURE FINAL ACTION MEMORANDUM FOR TAYLOR BOULEVARD BRIDGE (SITE 30), NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA

Enclosure

Copy to:

U.S. Environmental Protection Agency, Region 9 (Attn: Sonce de Vries) (w/o enclosure)
National Oceanic and Atmospheric Administration (Attn: Denise Klimas) (w/o enclosure)
National Oceanic and Atmospheric Administration (Attn: Laurie Sullivan) (w/o enclosure)
U.S. Fish and Wildlife Service (Attn: Dan Welsh) (w/o enclosure)
California Department of Toxic Substances Control Region 1 (Attn: Jim Pinasco) (w/CD)
California Regional Water Quality Control Board, SFBAY (Attn: Laurent Meillier) (w/CD)
California Department of Fish and Game (Attn: Frank Gray) (w/CD)
Contra Costa County Environmental Health, LEA (Attn: Agnes T. Vinluan) (w/o enclosure)
Cal/EPA Integrated Waste Management Board Permitting &
Enforcement Division (Attn: Frank Davies) (w/o enclosure)
Restoration Advisory Board (RAB) Co-Chair (Attn: Ms. Mary Lou Williams) (w/o enclosure)
RAB Member Lisa Anich (w/o enclosure)
RAB Member Kevin Cornish (w/o enclosure)
RAB Member Dwayne Dalman (w/o enclosure)
RAB Member David Griffith (w/o enclosure)
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RAB Member Jessica Hamburger (w/o enclosure)
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Tech Law, Inc. (Attn: Kimberly Walsh) (w/o enclosure)
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NWS Seal Beach, N09WS (Attn: Gregg Smith) (w/o enclosure)
EFD Southwest (3) (Diane Silva- Admin Record/IR/Base copy) (w/o enclosure)
TtEMI San Francisco (Attn: Joanna Canepa) (w/o enclosure)
TtEMI San Francisco (Attn: Cindi Rose) (w/o enclosure)

Final

Action Memorandum for Taylor Boulevard Bridge Disposal Site (Site 30)

Naval Weapons Station Seal Beach
Detachment Concord
Concord, California

October 31, 2005

Prepared by:
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Naval Facilities Engineering Command
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DS.B041.14442

Final

Action Memorandum for Taylor Boulevard Bridge Disposal Site (Site 30)
Naval Weapons Station Seal Beach, Detachment Concord
Concord, California

Contract Task Order 0041
DS.B041.14442

PREPARED FOR:

DEPARTMENT OF THE NAVY

REVIEW AND APPROVAL

Project Manager: Cindi Rose Date: October 31, 2005
Cindi Rose, SulTech

Date: October 31, 2005
Stan Ali, P.E., SulTech
Registration No. C66976

CONTENTS

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TABLES

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

µg/kg	Micrograms per kilogram
AOC	Area of contamination
ARAR	Applicable or relevant and appropriate requirement
BAAQMD	Bay Area Air Quality Management District
BERA	Baseline ecological risk assessment
bgs	Below ground surface
BNSF	Burlington Northern Santa Fe Railroad Company
Ca-HSC	*California Health and Safety Code*
CCR	*California Code of Regulations*
CCWD	Contra Costa Water District
CDFG	California Department of Fish and Game
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
COC	Chemical of concern
COEC	Chemical of ecological concern
COPC	Chemical of potential concern
Detachment Concord	Naval Weapons Station Seal Beach, Detachment Concord
DTSC	California Department of Toxic Substances Control
EE/CA	Engineering evaluation and cost analysis
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ERA	Ecological risk assessment
FFA	Federal Facility Agreement
HHRA	Human health risk assessment
HI	Hazard index
HQ	Hazard quotient
LDR	Land disposal restriction
LUC	Land use controls
mg/kg	Milligram per kilogram
msl	Mean sea level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NTCRA	Non-time critical removal action

ACRONYMS AND ABBREVIATIONS (Continued)

PA	Preliminary assessment
PAH	Polyynuclear aromatic hydrocarbons
PCB	Polychlorinated biphenyls
PRG	Preliminary remediation goal
PRSC	Post-removal site control
QA/QC	Quality assurance and quality control
RCRA	Resource Conservation and Recovery Act
RI	Remedial investigation
SMHM	Salt marsh harvest mouse
SVOC	Semivolatile organic compound
SWRCB	State Water Resources Control Board
TBB	Taylor Boulevard Bridge
TBC	To be considered
TCRA	Time-critical removal action
Tetra Tech	Tetra Tech EM Inc.
TOC	Total organic carbon
TPH	Total petroleum hydrocarbons
TPH-d	Total petroleum hydrocarbons – diesel range
TPH-g	Total petroleum hydrocarbons – gasoline range
TPH-mo	Total petroleum hydrocarbons – motor oil range
TSS	Total suspended solids
UCL_{95}	95 percent upper confidence limit on arithmetic mean
U.S.C.	United States Code
VOC	Volatile organic compound
Water Board	California Regional Water Quality Control Board
yd^3	Cubic yard

EXECUTIVE SUMMARY

Action Memorandum for
Taylor Boulevard Bridge Disposal Site (Site 30)
U.S. Naval Weapons Station Seal Beach Detachment Concord
Concord, California

Introduction:

This action memorandum documents the Navy's decision to excavate and dispose of debris and contaminated soil from Site 30 at Naval Weapons Seal Beach Detachment Concord (Detachment Concord). This action will be a non-time-critical removal action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). After excavation and off-site disposal of the debris and contaminated soil, clean fill would be used to backfill the excavated area, and vegetation would be re-established. This executive summary follows the same organization of the action memorandum and includes references to pages in the action memorandum.

I. Purpose — Page 1

The action memorandum documents, for the administrative record, the U.S. Department of the Navy's decision to undertake a non-time-critical removal action (NTCRA) for metals-contaminated waste materials at the Taylor Boulevard Bridge (TBB) Disposal Site (Site 30). Site 30 is located in the Tidal Area portion of Detachment Concord, Concord, California. The site 30 is a 1-acre area adjacent to Seal Creek Marsh and to the Taylor Boulevard Bridge.

II. Site Conditions and Background — Pages 2–8

Detachment Concord is a federally owned facility and is currently operated and maintained by the Navy. A portion of Detachment Concord has been recommended for closure under the Base Realignment and Closure (BRAC) process; while the decision is not yet final, it is anticipated to be final in the fall of 2005. Site 30 is not on the portion of the base recommended for closure, but in the Tidal Area of the base that will be transferred to the Army for their use. It would still remain a military facility with restricted access.

As a result of observing waste materials at the ground surface, Site 30 was identified in late 1995 during a remedial investigation (RI) conducted by the Navy for four nearby sites, also part of Detachment Concord. Subsequently, several rounds of soil and sediment samples have been collected, and a RI report prepared for Site 30. Both a screening-level human health risk assessment (HHRA) and a baseline ecological risk assessment (BERA) were performed as part of the RI to evaluate risks to human health and the environment. These reports indicate that, although the site presents a threat to human health, the threat to the environment is greater because of the lack of human use of Site 30. The BERA concluded that removing debris and soil contaminated with metals would significantly reduce the risk to the environment.

No previous removal or remedial action has occurred at Site 30.

III Threats to Public Health or Welfare or the Environment and Statutory and Regulatory Authorities — Pages 8–10

Threats to humans and the environment have been evaluated at Site 30 in accordance with the National Contingency Plan, which are the federal regulations implementing CERCLA. The results of these evaluations indicate that the concentrations of contaminants, primarily metals, at Site 30 present a risk to human health and the environment. Areas with the highest levels of contamination by inorganic chemicals are located where the debris is most concentrated, which is along the shoreline and in the center of the site. Based on the results from previous sampling, removal of the lead-contaminated soil and debris will also remove the elevated concentrations of all other COCs.

The results of these evaluations indicate that the concentrations of contaminants, primarily metals, at Site 30 present a potential risk to human health and the environment. The contamination occurs in the debris and contaminated soil at Site 30. The area of unacceptable risk was defined spatially by a risk "footprint" to help establish the boundary for the removal action.

IV Endangerment Determination — Page 11

The risk evaluation concluded that current conditions at Site 30 present a potential threat to the aquatic ecosystem, public health, and welfare.

V Proposed Actions and Estimated Costs — Pages 11–21

Existing information is sufficient to provide the basis for the planned removal action. This removal action would involve excavation of the debris and sediment for off-site disposal. On July 15, 2005, five samples were collected and analyzed for PCB as requested by EPA. The results showed that PCBs were detected at only trace concentrations (very near the method limits). Based on these results, the Navy believes the proposed removal action adequately addresses any concern related to PCB. Cleanup values are set to the maximum concentration outside of the risk footprint. Because chemicals of concern (COC) are collocated with lead, the initial screen to assess the completeness of excavation will be based on a comparison of the mean confirmation sample result for lead with the cleanup value for lead (268 mg/kg). Excavation (and collection of confirmation samples) will continue until this criterion is met. Once met, the mean confirmation sample results for the remaining COCs will be compared to their respective cleanup values. The approximate cost for the removal action is $1.8 million. Three other removal alternatives were evaluated and rejected because of their ineffectiveness or high costs.

VI Expected Change in the Situation Should Action be Delayed or Not Taken — Page 21

Human and ecological receptors will continue to be at risk and contamination may spread if action is not taken.

VII Public Involvement Page 21

The public was given the opportunity to comment on the draft action memorandum, as well as the Engineering Evaluation/Cost Analysis in which prospective action alternatives were developed and compared. The public's comments are responded to in this final action memorandum (Attachments B and C).

VIII Outstanding Policy Issues Page 22

There are no outstanding policy issues.

IX Recommendation Page 22

The recommended course of action is to undertake a removal action, consisting of excavation and off-site disposal of debris and contaminated soil from Site 30.

Department of the Navy
Naval Weapons Station Seal Beach 800 Seal Beach Boulevard
Seal Beach, California 90740-5000
November 1, 2005

Subject: **Action Memorandum for Removal Action at Naval Weapons Station Seal Beach, Detachment Concord, Taylor Boulevard Bridge Disposal Site (Site 30), Concord, California**

Site Status: **National Priorities List**
Removal Category: **Non-Time-Critical Removal Action**
CERCLIS ID: **CA7170024528**
Site ID: **Site 30**

I. PURPOSE

This action memorandum documents for the administrative record the U.S. Department of the Navy's decision to undertake a non-time-critical removal action (NTCRA) for metals-contaminated waste materials at the Taylor Boulevard Bridge (TBB) Disposal Site (Site 30) at Naval Weapons Station Seal Beach, Detachment Concord (Detachment Concord), Concord, California. As part of the Department of Defense, the Navy has the authority to undertake Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response actions, including removal actions, under Title 42 *United States Code* (42 U.S.C.) Section 9604, 10 U.S.C. Section 2705, and federal Executive Order (EO) 12580. Furthermore, this removal action is, to the maximum extent possible, consistent with Chapter 6.8 of the California Health and Safety Code (Ca-HSC).

The primary objective of the proposed NTCRA is to reduce human and ecological risk associated with metals-contaminated waste materials by excavating and removing contaminated soils, sediment, and buried debris. As a result, the proposed action will substantially eliminate the pathways of exposure to hazardous substances for ecological receptors through the identified pathways at the TBB Disposal Site, Site 30, and the Navy anticipates that the removal action will reduce ecological risks to acceptable levels. This NTCRA is anticipated to be a complete cleanup for the site.

The proposed removal action for this site is deemed consistent with the factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at Title 40 of the *Code of Federal Regulations* (40 CFR) Part 300, and Chapter 6.8 of the Ca-HSC, based on (1) the findings of actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants, and (2) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate (see Section 300.415[b][2] of the NCP, Ca-HSC Section 25356.1 *et seq*.).

No nationally significant or precedent-setting issues exist for this site.

II. SITE CONDITIONS AND BACKGROUND

A. SITE DESCRIPTION

1. Removal Site Evaluation

Site 30 is a 1-acre site adjacent to Seal Creek Marsh. It has no paved areas, no buildings are present, and no physical evidence exists of any previous construction. The nearest improvements are the TBB and the Taylor Boulevard Railroad Bridge, which span the eastern side of the site. The Burlington Northern Santa Fe Railroad Company (BNSF) tracks are immediately south of the site, and Waterfront Road and the Union Pacific Railroad tracks are immediately north of the site. Seal Creek Marsh borders the site to the west. The elevation at the center of the site is 6 feet higher than the surrounding marsh. No portion of the site is higher than 12 feet above mean sea level (msl).

As a result of observing waste materials on the ground surface, Site 30 was identified in late 1995 during a remedial investigation (RI) conducted at four nearby Tidal Area sites. Debris that consists of broken glass, burned metal, and partially burned wooden railroad ties litters the ground surface at much of the site. The dates of disposal and the source of the debris at the site are unknown, however. The debris includes a variety of blue-colored glass bottles and ceramic fragments. The waste appears to be old, consistent with the conclusions about the disposal area based on a review of aerial photographs. Research by EPA suggests that the site was used for the burning and disposal of waste from the former town of Port Chicago. The burning of dumping of wastes was once common waste disposal practice.

Sediment samples from borings at Site 30 and the surrounding area were collected in February 1996, March 1997, October 1997, February 1998, and June 1998 to assess the nature and extent of chemical contamination at Site 30. These evaluations indicated that concentrations of inorganic chemicals (primarily lead) at the center of Site 30 were higher than were detected in surrounding areas and posed a potential risk to both human health and the environment.

A screening-level human health risk assessment (HHRA) and a screening-level ecological risk assessment (ERA) were conducted in August 1999 (Tetra Tech 1999). The studies concluded that, although the site posed potential risks to human health, threats to ecological receptors were the primary risk drivers at the site because of the presence of wetlands, the potential presence of special status species, and the limited human access to the site.

A baseline ecological risk assessment (BERA) was conducted as part of the Site 30 RI from February through March 2000 to assess the threat to potential ecological receptors posed by the presence of wetlands and special status species (Tetra Tech 2002). The BERA evaluated four ecological receptors: wetland and upland transitional plants, benthic invertebrates, aquatic birds (represented by the black-necked stilt [*Himantopus mexicanus*] and the mallard duck [*Anas platyrhynchos*]), and small mammals (represented by the salt marsh harvest mouse [SMHM] [*Reithrodontomys raviventris*]) and established a risk footprint as a boundary for a potential removal action. The BERA indicated that removing the debris and contaminated soil would significantly reduce risk to both aquatic and wetland receptors.

After a review of the data in the draft final RI report (Tetra Tech 2002), the regulatory agencies identified the following data gaps: (1) groundwater characterization, (2) vertical extent of debris, and (3) characterization of the inorganic and organic chemicals in sediment beneath the debris. In response, the Navy undertook additional field sampling and laboratory analysis and prepared an RI addendum to address those issues (Tetra Tech 2004). Results of the investigation suggested that contaminants may be leaching from the debris to subsurface sediment in low-lying areas of the site closest to the shoreline, where debris is within the groundwater.

The primary chemicals of concern (COC) at the site are the metals arsenic, cadmium, copper, chromium, lead, mercury, selenium, and zinc. Areas with the highest levels of contamination by metals are located where the debris is most concentrated, which is along the shoreline and in the center of the site. A "risk footprint" that shows the overlap of risk to each receptor by location was developed to identify the areas of highest risk to help establish the boundary for a removal action.

2. Physical Location

Detachment Concord is located in north-central Contra Costa County, 30 miles northeast of San Francisco, California. The primary use of the facility is to load and unload weapons and equipment from cargo and to preposition ships (Figure 1).

Residences and public facilities are present within a 1-mile radius of Detachment Concord, but no residences or public facilities are located adjacent to Site 30. Detachment Concord includes large tidal wetlands on the south shore of Suisun Bay and several offshore islands, which provide the required safety buffer zone for explosives during ship loading operations. The climate is characterized as semiarid temperate, with rainy winters and dry summers. The average annual precipitation in the area from 1956 to 1974 was 16.5 inches; precipitation occurs mostly between October and March.

3. Site Characteristics

Detachment Concord is a federally owned facility and is currently operated and maintained by the Navy. A portion of Detachment Concord has been recommended for closure under the Base Realignment and Closure (BRAC) process. While the decision is not yet final, it is anticipated to be final in the fall of 2005. Site 30 is not on the portion of the base recommended for closure, but in the Tidal Area of the base that will be transferred to the Army for their use. It would still remain a military facility with restricted access. Currently, the Department of the Army's Military Traffic Management Command is the tenant of the facility and operates the port facilities in the Tidal Area of the base for explosive ordnance transshipment.

Site 30 is roughly triangular and is bordered by wetlands (referred to as Seal Creek Marsh) to the south and west (Figure 2). Seal Creek Marsh, adjacent to the site, is mostly open water, although the depth of the water varies seasonally. Pickleweed (*Salicornia virginica*) borders most of the shoreline. Glass and metal debris covers a triangular area that extends about 180 by 180 feet, into the open water, and onto a peninsula (Figure 3). Surface vegetation covers the debris in most areas. This removal action will be the first removal or remedial activity conducted at the site.

4. Release or Threatened Release into the Environment of a Hazardous Substance or Pollutant or Contaminant

COCs identified at the site are pollutants or contaminants as defined by Section 101(33) of CERCLA. The primary COCs at the site are the metals arsenic, cadmium, copper, chromium, lead, mercury, selenium, and zinc. Areas with the highest levels of contamination by inorganic chemicals are located where the debris is most concentrated. The peninsula of Site 30 contains the largest amount of debris. The vertical extent of the debris ranges from 4 feet below ground surface (bgs) at the end of the peninsula to 1 foot bgs in the central portion of the site (Figure 4). The subsurface debris along the peninsula consists primarily of glass fragments, intact glass bottles, and what appears to be highly rusted metal debris (rust flakes and fragments). The rusted material is essentially mixed with the small amount of sediment that composes the debris matrix on the peninsula (Tetra Tech 2002). The action involves removing between 4,800 to 6,200 cubic yards (yd^3) of metals contaminated debris and soil from Site 30.

The extent of debris in the aquatic portion of Site 30 was estimated by probing the submerged sediments of the offshore area with a shovel and a 5-foot length of plastic pipe. Based on these methods, debris appears to extend about 10 to 20 feet offshore and down 1 to 2 feet below the sediment surface. About 6 inches of sediment covers the debris in the area south of the peninsula. The debris appears to be heaviest close to the shoreline and is mixed with sediment in most areas. The stippled offshore area shown on Figure 4 delineates an area of scattered surface debris, based on sediment probing conducted while field crews traversed this area.

The data collected for sediment suggest that contaminants may be leaching from the debris to subsurface sediment in low-lying areas of the site closest to the shoreline, where the debris lies within the groundwater. Concentrations of metals in sediment are highest on the peninsula in areas where the debris extends into the groundwater. Metals contamination was observed only in surface sediments in the center of the site, where debris does not intersect groundwater (Tetra Tech 2002). Surface sediment and water samples collected about 10 feet offshore did not contain elevated levels of metals (Tetra Tech 2002).

Although aluminum, arsenic, copper, mercury, and nickel were detected at concentrations above screening criteria for groundwater, only arsenic and aluminum were notably elevated above screening criteria (Tetra Tech 2004). Aluminum is not expected to be a concern because the pH of the soil is relatively neutral, and the mobility of aluminum is minimal in pH-neutral soils.

5. National Priorities List Status

Detachment Concord is on the National Priorities List and is subject to the Federal Facility Agreement (FFA) dated June 2001 between the Navy and U.S. Environmental Protection Agency (EPA) Region 9. EPA is the lead regulatory agency providing oversight for Detachment Concord. Various phases of remedial activities are in progress at other sites on the base, and include preliminary assessments (PAs) and site inspections, remedial investigations and feasibility studies, other removal or remedial actions, and post-remediation monitoring. No other response actions are under way at Site 30.

6. Maps, Pictures, and Other Graphic Representations

Attachment A to this action memorandum includes seven figures that illustrate the location of the site, the sampling locations, the depth of the debris, the risk and excavation footprints, and a process flowchart for post removal confirmation sampling. The Detachment Concord facility, which encompasses about 13,000 acres and is bounded by Suisun Bay to the north and east and by the City of Concord to the south and west, is shown on Figure 1. Site 30 and the surrounding area of the base are shown on Figure 2. Figure 3 shows locations where sediment and groundwater samples were collected during the RI, as well as the locations of the debris test holes. Figure 4 shows the lateral and vertical distribution of the debris. The risk footprint and area proposed for excavation are presented in Figure 5. Figure 6 illustrates the concentrations of other COCs that are collocated with lead. Figure 7 is a process flow diagram that outlines the procedure for confirmation sampling.

B. OTHER ACTIONS TO DATE

1. Previous Actions

No previous removal or remedial actions have been conducted at Site 30.

The initial investigations at Site 30 were conducted from 1996 through 1998. As previously stated, Site 30 was identified in late 1995 during an RI conducted at four nearby Tidal Area sites (Figure 1). The initial sediment sampling investigation at Site 30 was conducted in February 1996. Sediment samples were collected from three borings (SB01 through SB03) in the central region of the site, where scattered glass, metal, and wood debris was present. Site sampling locations are illustrated on Figure 3. Two sediment samples were collected from each of the borings: one from 0.0 to 0.5 foot bgs, and one from 2.0 to 2.5 feet bgs. Six sediment samples were collected and analyzed for semivolatile organic compounds (SVOCs), metals, purgeable total petroleum hydrocarbons (TPH) – gasoline range compounds, and extractable TPH (diesel fuel- and motor oil-range compounds). Samples were not analyzed for pesticides and polychlorinated biphenyls (PCBs) because the large amount of glass debris at the site suggested a disposal area for household rather than industrial waste. Samples were also not analyzed for volatile organic compounds (VOCs) because they are not likely to be present in exposed surface sediment.

Analytical results for the initial six samples from borings SB01 through SB03 suggested that TPH as diesel (TPH-d) and TPH as motor oil (TPH-mo) were present at the surface at borings SB01 and SB03. TPH-d and TPH-mo were not detected at boring SB02 or in any of the deeper samples from 2.0 to 2.5 feet bgs. The highest concentrations of metals were detected in surface samples from borings SB01 and SB03. Samples collected from 2.0 to 2.5 feet bgs contained lower concentrations of metals and SVOCs. Concentrations of metals in the deeper samples appeared to be within the estimated range of ambient limits.

Based on the results of the initial sampling, a second round of samples was collected in March 1997. Nine borings (SB04 through SB12) were completed, primarily east and south of borings SB01 through SB03 (Figure 4) to evaluate the lateral extent of metals, TPH, and SVOC. The analytical data were also to be used in estimating the approximate volume of waste material.

Samples were collected at each boring from the 0- to 0.5- and 1.0- to 1.5-foot bgs intervals. Although SVOCs and TPH were detected in the surface samples, the pattern of detected organic chemicals did not suggest a significant release because deeper sediments were not affected. Consequently, SVOCs and TPH were not evaluated during subsequent sampling rounds.

After the second round of sampling in March 1997, the vertical extent of site chemicals in sediment was considered delineated; however, the lateral extent of elevated concentrations of metals in Site 30 sediment was not considered defined. Three additional rounds of sampling were therefore conducted to evaluate the lateral extent of metals concentrations in surface sediment in the adjacent submerged region of Seal Creek Marsh. Surface sediment sampling events were conducted in October 1997 (including samples SB13 through SB20), March 1998 (including samples SB100 through SB106), and June 1998 (including samples SS200 through SS214). Sampling in the final two rounds extended laterally into areas where the concentrations of metals in sediment samples were lower.

Based on preliminary evaluations of the spatial distribution of chemicals in sediments, it was clear that a removal action would be necessary to reduce the potential risk to human health and the environment. Preliminary evaluations suggested that concentrations of inorganic chemicals (primarily lead) at the center of the site were higher than were detected in surrounding areas. The high concentrations of inorganic chemicals in sediment in the center of the site were considered to pose a potential risk to both human health and the environment. As a result, the Navy proposed a removal action to remove the debris to mitigate the risk to the environment based on the results of these preliminary evaluations. After discussions between the Navy and the regulatory agencies, however, it was decided that the RI would be completed for Site 30.

In August 1999, a final report and summary work plan summarized available data and presented a screening-level HHRA and a screening-level ERA (Tetra Tech 1999). Although the site posed potential risks to human health, threats to ecological receptors were deemed the primary risk drivers at the site because of the presence of wetlands, the potential presence of special status species, and the limited human access to the site. The site remediation necessary to mitigate the risk to animal receptors would also be expected to mitigate the risk to humans, even under extremely conservative assumptions about human contact with the site. In addition, a BERA was recommended based on the conclusions of the screening-level ERA. Field activities in the summary report and work plan and field sampling plan were, therefore, designed to fulfill the data requirements of a BERA.

Additional samples to address the data needs for a BERA were collected during February and March 2000. The BERA samples included three composite sediment samples analyzed for total metals and for toxicity to amphipods. Three collocated sediment and pickleweed and three collocated sediment and amphipod tissue samples were also collected for the BERA investigation. The BERA sampling included collection of composite sediment samples for analysis of metals and bioassays and collection of pickleweed and amphipods for analysis of tissue residues.

Also during the BERA sampling, 22 holes were dug throughout the site to characterize the depth and lateral extent of the debris. These debris test hole locations are identified by triangular symbols on Figure 3 and are numbered DB001 through DB022. Figure 4 shows profiles of the

debris test holes; the soil types and the vertical extent of the debris are illustrated. The results were presented in the draft final RI (Tetra Tech 2002).

Regulatory comments received from the U.S. EPA and the California Regional Water Quality Control Board (Water Board) on the draft final RI indicated outstanding data gaps with regard to (1) groundwater quality, (2) the vertical extent of debris, and (3) the concentrations of inorganic and organic chemicals in sediment beneath the debris. As a result, a supplemental investigation to address these concerns was conducted in 2003.

Three monitoring wells were installed, and groundwater samples were collected to evaluate whether site-related chemicals have migrated to groundwater and adversely affected groundwater quality. Groundwater samples were collected using low-flow purge methods and were analyzed for total metals, hexavalent chromium, pesticides, PCBs, VOCs, SVOCs, TPH, total organic carbon (TOC), total suspended solids (TSS), and pH. In addition, one groundwater sample was analyzed for dioxins.

The vertical extent of the debris was characterized by hand-augering five borings to the sediment just below the debris. Samples of the underlying sediment were collected from each boring for analysis. These sediment samples were analyzed for metals, hexavalent chromium, pesticides, PCBs, SVOCs, TPH, pH, and TOC. In addition, one sediment sample was analyzed for dioxins. The conclusions of the supplemental RI investigation were presented in the final RI addendum report for Site 30. Comments received from EPA on the RI addendum recommended that Site 30 should be considered for a NTCRA (Tetra Tech 2004). Comments received from the EPA on the RI addendum recommended that Site 30 should be considered for a non-time critical removal action (Tetra Tech 2004a). This is consistent with the EPA Superfund Accelerated Cleanup Model approach to achieve prompt risk reduction (EPA 1988) and is responsive to public interest in expediting site cleanups at Concord Naval Weapons Station.

2. Current Actions

No other government or private entities are currently undertaking any actions to address contaminated waste materials at Site 30.

C. STATE AND LOCAL AUTHORITIES' ROLES

1. State and Local Actions to Date

As previously described, EO 12580 delegates to the Department of Defense the President's authority to undertake CERCLA response actions. Congress further outlined this authority in its Defense Environmental Restoration Program Amendments, which can be found at 10 U.S.C. Sections 2701-2705. Both CERCLA Section 120(f) and 10 U.S.C. Section 2705 require Navy facilities to ensure that state and local officials are afforded timely opportunity to review and comment on Navy response actions. CERCLA Section 120 further requires the Navy to apply state removal and remedial action law requirements at its facilities.

In accordance with these requirements, the California Department of Toxic Substance Control (DTSC) and Water Board have provided technical advice and oversight during the remedial

investigation. Presentations have been provided about planned sampling approaches, analytical results, site characterization, and risk assessments at Site 30 during meetings of project managers for the regulatory agencies and Navy.

2. Potential for Continued State and Local Response

DTSC, the Water Board, and the California Department of Fish and Game have provided technical advice, oversight, and assistance throughout the remedial investigation and are expected to continue to provide advice, oversight, and assistance during the proposed NTCRA. It is also expected that the Navy's Defense Environmental Restoration Account will continue to be the exclusive source of funding for this program.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

In accordance with the NCP, the following threats must be considered when evaluating the appropriateness of a removal action (40 CFR Section 300.415 [b][2]):

1. Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or food chains.

2. Actual or potential contamination of drinking water supplies or sensitive ecosystems.

3. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.

4. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

5. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

6. Threat of fire or explosion.

7. Other situations or factors that may pose threats to public health or welfare or the environment.

The threats that apply at Site 30 are items 1, 2 (regarding sensitive ecosystems), and 4.

A. THREATS TO PUBLIC HEALTH OR WELFARE

Threats to public health or welfare were assessed in the RI using a screening-level approach (Tetra Tech 2002). The potential carcinogenic risks and noncarcinogenic hazards were estimated based on comparing the 95 percent upper confidence limit on the arithmetic mean (UCL_{95}) with EPA Region 9 residential preliminary remediation goals (PRGs) (EPA 1999). Because of the marshland setting, Site 30 is an unlikely candidate for future residential development. However,

the Navy regularly screens according to EPA residential occupancy assumptions because these are the most health protective.

Site 30 was subdivided into two areas for the screening evaluation: (1) Area A, the center of the site, where concentrations of lead exceeded 400 milligrams per kilogram (mg/kg) (the 1999 residential PRG for lead), and (2) Area B, the remaining area outside of Area A (the 400 mg/kg isopleth for lead). Figure 5 shows the locations where concentrations of lead exceed 400 mg/kg (designated using the * symbol).

The ratio of the UCL_{95} concentration to the residential PRG ratio was multiplied by 1×10^{-6} to evaluate carcinogenic risk. The sum of the carcinogenic ratios within Area A was 4×10^{-4}, with arsenic as the primary risk driver. The chemicals that yielded results greater than 1×10^{-6} were arsenic, cadmium, chromium, benzo(a)pyrene, and benzo(b)fluoranthene. The hazard index (HI) was calculated by summing the hazard quotients for COCs with noncancer effects. Each hazard quotient (HQ) was estimated by calculating the ratio (UCL_{95}/noncancer endpoint residential PRG). An HI of 1 indicates that no noncancer adverse health effects are expected to occur as a result of exposure to on-site chemicals. The HI (sum of the HQs) was 22 for Area A, indicating the potential for adverse health effects from residential use of the site.

The sum of the carcinogenic ratios within Area B was 3×10^{-5}. Arsenic was the only chemical that posed an estimated risk that exceeded 1×10^{-6}. Potential exposures to chemicals in Area B outside the risk footprint would not be expected to result in adverse health effects, however (Tetra Tech 2002). After soil and sediment are remediated within the risk footprint, the only chemicals of potential concern (COPCs) that would remain at concentrations above the EPA Region 9 residential PRGs would be arsenic and iron. Although arsenic would remain at concentrations above the EPA 9 PRG after remediation, concentrations would be below the Tidal Area ambient value (27 mg/kg). The Navy policy on background states that naturally occurring and anthropogenic chemicals that are present at levels below background should be eliminated from the baseline risk assessment and should not be included in remediation projects (Navy 2004). The Tidal Area ambient concentrations represent background conditions at the site.

B. THREATS TO THE ENVIRONMENT

Three of the threats listed in Section 300.415(b)(2) of the NCP apply to conditions at Site 30, Detachment Concord. These threats are (1) actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or the food chain (40 CFR 300.415 [b][2][i]), (2) actual or potential contamination of drinking water supplies or sensitive ecosystems, and (3) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate (40 CFR 300.415[b][2][iv]). The Navy has evaluated risks to human health and the environment at Site 30 through a screening-level human health risk assessment and a BERA, which were conducted as part of the RI (Tetra Tech 2002). Animals and the food chain are exposed to elevated levels of metals that are present in debris at or near the surface, with lead the primary inorganic COC; other chemicals of human and ecological concern are collocated with the lead contamination (Figure 6). The remainder of this section summarizes site contaminants, release mechanisms, exposure pathways, and current and potential future

threats to the environment. A detailed discussion of the ecological risks associated with site contaminants is presented in the RI and RI addendum (Tetra Tech 2002, 2004).

Site Contaminants: Concentrations of inorganic chemicals in the area of debris at Site 30 are sufficiently high that they present a potential risk to human health and the environment. Areas with the highest levels of contamination by inorganic chemicals are located where the debris is most concentrated, which is along the shoreline and in the center of the site. Based on the results from previous sampling, removal of the lead-contaminated soil and debris will also remove the elevated concentrations of all other COCs.

Release Mechanisms: Inorganic chemicals related to the debris are the main chemicals of concern at Site 30. The primary migration pathway for these chemicals is through migration of leachate generated by surface water infiltration. Based on analytical results, contaminant concentrations in soil and sediment were highest on the peninsula in areas where the debris extends into the groundwater. Concentrations in sediment beneath the debris were not elevated at the sampling location in the center of the site, where debris does not intersect groundwater. The results of the 2003 investigation of groundwater suggest that contaminants may be leaching from the debris to subsurface sediment in low-lying areas of the site closest to the shoreline, where the debris is within the groundwater.

Exposure Pathways: Ingestion of chemicals in soil and prey is considered the predominant exposure pathways for human and ecological receptors at Site 30.

Current Threats to the Human Health and the Environment: Potential cancer risks and noncancer health hazards associated with sediment and soil were calculated for the HHRA using a screening-level approach. Specifically, chemical concentrations in soil and sediment were compared with EPA Region 9 PRGs (EPA 1999) for a residential scenario. PRGs based on target cancer risks of 1×10^{-6} and an HQ of 1 were used. The screening-level HHRA conducted for Site 30 indicated that inorganic chemicals are present at levels that could result in adverse health effects. Locations where risk was indicated to human health are shown on Figure 5. Furthermore, the risk footprint for human health falls within the footprint for ecological risk. Threats to ecological receptors were evaluated through a BERA and are documented in the RI and RI addendum (Tetra Tech 2002, 2004). The BERA used food-chain modeling to assess ecological risks to three vertebrate species that represent separate feeding guilds. The food-chain modeling used site-specific chemical data. Chemicals that posed an unacceptable level of risk to one or more of the assessment endpoint receptors at the Site 30 included arsenic, cadmium, copper, lead, mercury, selenium, and zinc. Elevated concentrations of arsenic, cadmium, copper, mercury, selenium, and zinc are collocated with high concentrations of lead (see Figure 5).

Future Threats to the Environment: Metals detected at Site 30 are associated with debris or are in soils that lie directly beneath the debris. The data presented in the RI and RI addendum indicated that the waste materials are contaminated with metals that have leached to some extent into underlying soils. The metals in waste materials at Site 30 pose an unacceptable risk, and the risk they pose is not expected to change significantly over time because (1) the debris has been in place for 30 or more years, and (2) chemical transformations are not expected to reduce concentrations of metals over time.

IV. ENDANGERMENT DETERMINATION

Calculations from the risk evaluation for the RI (Tetra Tech 2002) and other information in the administrative record demonstrate that current conditions at Site 30 present a potential threat to the aquatic ecosystem, public health and welfare, or the environment. The debris at Site 30 is suspected to have contaminated groundwater to a limited extent. Migration of contaminants through air is considered unlikely, however, because the debris is typically covered by vegetation and mixed with sediment and is not volatile. Fire and explosion are not considered a threat from these materials.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. PROPOSED ACTION

1. Description of Proposed Action

Existing information provides sufficient basis to proceed with the proposed removal action, but additional information will be gathered to refine the removal action, as described under Task 2 below. The action proposed to address the risks at Site 30 is to excavate and appropriately dispose of the contaminated debris off site. Debris and soils in the proposed areas of excavation will be excavated to a specified depth (see Task 4) and replaced with clean fill, and the site will be restored by revegetating the area. The extent and completeness of the removal action will be verified by confirmation sampling (see Task 5). The proposed action consists of the following tasks:

Task 1 - Mobilization and Demobilization: The relatively isolated location of Site 30 imposes some constraints on any access. The nearest at-grade railroad crossing is located 3,200 feet east of Site 30. As no road suitable for use as a haul road exists, a haul road must be constructed to the site. The Navy will need to consult with Union Pacific and BNSF on the temporary crossing of the rail lines and working within the rights-of-ways.

The road will be constructed during the summer to facilitate an efficient removal action. Once the road is completed, equipment and trucks will access a 1-acre area immediately east of the Taylor Boulevard Bridge, which will serve as a truck staging area. The staging area will contain a vehicle decontamination pad and a separate area for stockpiling wastes to be profiled. Polyethylene liners will be installed in areas designated to store wet wastes, and the perimeter of the staging areas will be bermed or otherwise protected as necessary to prevent runoff of sediment-laden storm water to areas beyond the project boundary. Storm water (if encountered) will be pumped to a temporary storage tank and disposed of appropriately. Dust suppression measures will be undertaken during the entire project.

The SMHM, a state and federally-listed endangered species may exist on site. The Navy will survey for the SMHM and other federal and/or state protected species to determine their presence or absence. As appropriate, because of the potential presence of federal and/or state-protected species, the Navy will coordinate with the U.S. Fish and Wildlife Service and the California Department of Fish and Game (CDFG) with regards to methods for avoiding or alleviating the short- and long-term impacts on potentially affected plant or animal species that may result from this action. Such methods, if necessary, will include; conducting plant and animal surveys prior

to the excavation and construction of a mouse-proof fence to protect the endangered SMHM by keeping them out of the construction area. It is also possible that the SMHM could be trapped and relocated outside the fence by appropriately permitted biologists before removal activities begin. Depending on their presence, the time of year during which the construction takes place could be influenced by nesting seasons of protected birds. In addition, a radiological screen of the site will be conducted before excavation begins to address any potential health and safety issues that may exist at the site.

Task 2 - Pre-excavation Sampling: In the U.S. EPA's August 26, 2004, comments on a June 2004 draft final remedial investigation addendum (Tetra Tech 2004), the Navy was requested to conduct a limited pre-removal action sampling event to evaluate the extent of PCB contamination of surface sediment to adequately assess associated ecological risks and confirm the risk footprint.

On July 15, 2005, five soil samples were collected and analyzed for PCB as requested by EPA. The results showed that PCB were not detected in two of the samples, and detected at only trace concentrations (very near the method limits) in the other three samples. Based on these results, the Navy believes the proposed removal action adequately addresses any concern related to PCB. The results of the PCB sampling were submitted to the regulatory agencies on September 12, 2005 and are also provided in Attachment D.

Task 3 - Dewatering: The removal action will take place during the summer to make the process more efficient. Before excavation begins, a temporary water-filled berm will be installed around the excavation footprint using Aqua-barriers. With the exception of the southeast corner of the site, placement of the water barrier will extend 50 to 60 feet beyond the boundary of the excavation footprint. The BNSF Railroad Company holds a 50-foot easement adjacent to the tracks, thus limiting the placement of the water barrier where the distance between the excavation footprint and the railroad easement is less than 50 feet. To ensure that agency concerns on the location of the water barriers are addressed (see Attachment B), the Navy will work in cooperation with the agencies to adjust the placement of the water barrier during development of the removal action design. The enclosed body of water will be pumped to the outside of the berm. The barrier will minimize disturbance to the adjoining wetlands and will enhance excavation and confirmation sampling. As a result of the dewatering effort, it is anticipated that the excavated waste will be sufficiently dry for disposal.

In the event that the excavated waste must be air dried before the soil can be disposed of, it will be placed in an appropriately constructed laydown area, with the necessary engineering controls for dust and storm water management.

It is anticipated that minimal water will be stored on site during the excavation process with the dewatering procedure in place. Any water collected after the site is disturbed will be tested for metals, polynuclear aromatic hydrocarbons (PAHs), pesticides, and PCBs. In the event that water removed during excavation is determined to be contaminated, it will either be evaporated onsite or will be disposed of appropriately.

Task 4 - Excavation: The bulk of the soil and sediment that contain elevated levels of contaminants will be removed from the site along with the debris. Data presented in the RI (Tetra Tech 2002) indicated that the elevated concentrations of the various COPCs and chemicals of ecological concern (COEC) were collocated with elevated levels of lead. The goals of the excavation effort are to remove all visible debris within the excavation footprint and meet the requirements for risk reduction.

The footprint for the excavation encompasses both the risk and debris footprints. The approximate depth of the excavation varies from 1 to 4 feet bgs. Assuming a 3-foot uniform excavation depth and a bulking factor of 25 percent, between 4,800 cubic yards (yd^3) and 6,200 yd^3 of debris and soil is anticipated to be excavated from the site. It is assumed that a low-ground-pressure excavator and a front-end loader could complete the excavation in about 1 month. Preconstruction activities such as dewatering and pre-excavation sampling can require 1 to 2 weeks to accomplish before excavation begins. Personnel will excavate the site in Level D personal protective equipment (i.e., regular construction work clothes, boots, and hard hats). Visual screening will be used to guide excavation until all visible debris has been removed. The extent of contamination and completeness of the removal action will be verified by confirmation sampling. To guide confirmation sampling, the excavation area will be divided in 35- x 35-foot grids as shown on Figure 9 in the EE/CA (SulTech 2005a). The details of the confirmation sampling are discussed under Task 5 below.

If the confirmation samples indicate a greater area of contamination than was initially expected, the Navy may choose to remove additional material. It is expected no contamination will be left in place. However, if for some reason contamination is left in place and poses a threat to human health or the environment, the site would be transitioned back into the remedial response process in an orderly manner.

Task 5 - Confirmation Sampling: As stated above, the excavation area will be divided into 35-foot grids to guide the confirmation sampling. In each grid, one bottom soil confirmation sample will be collected. Sidewall confirmation samples will be collected every 35 feet around the perimeter of the excavation. Because COCs are generally collocated with lead, the initial screen will be based on a comparison of the UCL_{95} of lead for the confirmation samples versus the cleanup value for lead (268 mg/kg). Excavation (and collection of confirmation samples) will continue until this criterion is met across the site. Once met, confirmation samples will be analyzed for the remaining COCs. For each COC a UCL_{95} will be calculated and compared with the cleanup value (the maximum concentration outside the risk footprint). A process flowchart illustrating the decision rules for confirmation sampling and the proposed cleanup values for all COCs is included in Attachment A as Figure 7. This process follows EPA guidance for the attainment of cleanup goals (EPA 1989). A more detailed discussion will be presented in the sampling and analysis plan (SAP) that will be developed for the removal action. Quality assurance and quality control (QA/QC) samples will also be collected.

Task 6 - Disposal: Excavated soil, sediments, and debris will be hauled to appropriate off-site landfills via trucks. However, based on existing data for metals, it is likely that much of the excavated material will be hauled to a Class I (hazardous waste) landfill. Therefore, it is assumed that 70 percent of the waste will be disposed of in a Class I facility and 30 percent in a Class II facility.

Task 7 - Site Reconstruction with Imported Fill and Habitat Restoration: Excavated areas will be backfilled and graded to re-establish the existing contours and elevations in the pickleweed zone, to the extent practicable. The final site grade will be designed to encourage growth of pickleweed in the areas east of and adjacent to the existing zone. The site will be graded to generally match the existing upland contours and elevations to the farther east of the expanded pickleweed area.

Backfill will be soil that is compatible with the wetland and is imported from an off-site source. Backfill material will meet the specifications for wetland compatible soils developed for the landfill cover remedial action at Site 1 at Detachment Concord.

Erosion control and re-vegetation procedures will be developed to facilitate seedling growth and reestablishment of vegetation. The vegetation will be restored using plants from an off-site nursery.

2. Contribution to Remedial Performance

The Navy expects that the NTCRA described in this document will successfully address identified contamination that poses an unacceptable risk to human and ecological receptors. All significant contamination will be excavated, removed, treated, and disposed. No further action is anticipated to be required at this site. After the removal action is complete, it is anticipated that a closeout report will be prepared to document the final action.

3. Description of Alternative Technologies

An engineering evaluation and cost analysis (EE/CA) was developed for this NTRCA (SulTech 2005a). The EE/CA identified and compared several cleanup alternatives for debris areas characterized at Site 30, including the selected alternative of excavation and off-site disposal. Other actions considered to address the metals-contaminated debris included no action, monitoring, and excavation with on-site stabilization followed by placement in a disposal cell. The rationale presented in the EE/CA for rejecting the three alternate actions is summarized below.

Alternative 1: No Action. Alternative 1 does not reduce the toxicity, mobility, or volume through treatment, nor does it comply with applicable or relevant and appropriate requirements (ARARs). No construction or administrative actions would be required to implement this alternative. Therefore, the alternative is technically feasible and would be easily implemented at no cost. However, this alternative is not effective in that it is not protective of human health or the environment under the unrestricted use (or residential) scenario. It does not prevent unrestricted use or address contaminants in soil, sediment, and debris that could pose a potential risk to human health and a potentially significant risk to wildlife species.

Alternative 2: Monitoring. Alternative 2 is not effective in that it does not reduce the toxicity, mobility, or volume through treatment, nor does it comply with ARARs. It is also not protective of human health or the environment under the unrestricted use (or residential) scenario. It does not prevent unrestricted use or address contaminants in soil, sediment, and debris that could pose a potential risk to human health and a potentially significant risk to wildlife species. However, the alternative is feasible to implement, although at a higher cost than Alternative 1.

Alternative 3: This alternative involves excavation, stabilization, on-site disposal, land use controls (LUCs), and habitat restoration. Alternative 3 involves on-site disposal of the stabilized excavated material by constructing a disposal cell. This alternative would slightly increase the volume of waste, by 20 to 25 percent. Additionally, Alternative 3 presents some long-term residual risks since long-term effectiveness and permanence depend on the effectiveness of LUCs imposed at the disposal cell. Additionally, the disposal cell would require monitoring and possible maintenance. Alternative 3 is considered moderately implementable based on the technical and administrative challenges associated with this alternative, which make its costs relatively high.

4. Engineering Evaluation/Cost Analysis

As mentioned above, the final EE/CA identified and compared several cleanup alternatives for debris areas characterized at Site 30. The final EE/CA was released for public review at the Concord Public Library, 2900 Salvio Street, Concord, California 95419 on March 25, 2005, with a 30-day comment period; comments have been received. Responses to public and agency comments received on the EE/CA are provided in Attachment B. A draft action memorandum was developed and released for public and regulatory agency review and comment in July 2005. The administrative record for the entire Detachment Concord Installation Restoration Program, including Site 30, already exists. The comments received on the draft action memorandum and Navy's responses are included in Attachment C of this final action memorandum.

5. Applicable or Relevant and Appropriate Requirements

Section 300.415 of the NCP provides that removal actions must attain ARARs to the extent practicable, considering the exigency of the situation.

Section 300.5 of the NCP defines applicable requirements as those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at a CERCLA site.

Section 300.5 of the NCP defines relevant and appropriate requirements as cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or siting laws that, while not applicable, to a hazardous substance, pollutant or contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular site.

Only substantive requirements are considered as possible ARARs because CERCLA on-site response actions do not require permitting. Administrative requirements such as approval of, or consultation with administrative bodies, issuance of permits, documentation, reporting, record keeping, and enforcement are not ARARs for CERCLA actions that are confined to the site.

There are three types of ARARs. The first type includes chemical-specific requirements. These ARARs set limits on the concentrations of specific hazardous substances, contaminants, and pollutants in the environment. Examples of this type of ARAR are ambient water quality criteria and drinking water standards. The second type of ARAR includes location-specific requirements that set restrictions on certain types of activities based on site characteristics. These include restrictions on activities in wetlands, floodplains, and historic sites. The third type of ARAR includes action-specific requirements. These ARARs are technology-based restrictions that are triggered by the type of action under consideration. Examples of action-specific ARARs are Resource Conservation and Recovery Act (RCRA) regulations for waste treatment, storage, and disposal.

Nonpromulgated advisories or guidance issued by federal or state governments are not legally binding and do not have the status of ARARs. These requirements may, however, be useful, and are "to be considered" (TBC). TBC (40 C.F.R. § 300.400[g][3]) requirements complement ARARs, but do not override them. They are useful for guiding decisions regarding cleanup levels or methodologies when regulatory standards are not available.

The following sections of this action memorandum present ARARs and TBCs for the planned NTCRA.

Tables 1 through 6 included at the end of this action memorandum present the ARARs with a determination of ARAR status (applicable or relevant and appropriate) for the proposed NTCRA. Tables 1 through 6 also include TBC requirements.

5.1 Chemical-Specific Applicable or Relevant and Appropriate Requirements

Chemical-specific ARARs are health- or risk-based numerical values or methodologies that, when applied to site-specific conditions, result in establishment of numerical cleanup values. These values establish the acceptable amount or concentration of a chemical found in, or discharged to, the ambient environment that is protective of human health or ecological receptors. The only potential chemical-specific ARARs are the requirements applicable to identification and land disposal of hazardous waste. If the removal action generates contaminated media that meets the definition of a RCRA hazardous waste, then the substantive provisions of the following RCRA requirements are potential ARARs:

- California Code of Regulations (CCR), Title 22, Section (§) 66261.21.
- California Code of Regulations, Title 22, § 66261.22(a)(1).
- California Code of Regulations, Title 22, § 66261.23.
- California Code of Regulations, Title 22, § 66261.24(a)(1).
- California Code of Regulations, Title 22, § 66261.100.

RCRA land disposal restrictions at Title 22 of CCR Section 66268.1(f) are also potential ARARs for discharging waste to land.

The following state requirements are also potential ARARs:

- California Code of Regulations, Title 27 §§ 20210, 20220 and 20230 (defining designated waste, nonhazardous waste, and inert waste).

- California Code of Regulations, Title 22, §§ 66261.22(a)(3) and (4), § 66261.24(a)(2)–(a)(8), § 66261.101, § 66261.3(a)(2)(C) or § 66261.3(a)(2)(F)(defining non-RCRA hazardous waste).

The EPA Region 9 residential PRGs (EPA 1999) for metals are TBC criteria.

5.2 Location-Specific Applicable or Relevant and Appropriate Requirements

Location-specific ARARs are restrictions on concentrations of hazardous substances or the conduct of activities as a result of the characteristics of the site or its immediate environment. The following federal location-specific ARARs were identified for Site 30:

- Coastal Zone Management Act (Title 16 U.S.C. 1456[c] and its implementing regulation, 15 CFR 930) (requires that activities near a coastal zone be conducted in a manner consistent with approved state management programs).

- The Endangered Species Act (Title 16 U.S.C. 1531 through 1543) (requires that federal agencies not jeopardize the continued existence of a listed species of cause the destruction or adverse modification of critical habitat).

- 40 CFR Section 6.302(a), implementing Executive Order 11990 (provides that actions must be taken to minimize the destruction, loss or degradation of wetlands).

- Clean Water Act (33 U.S.C. 1344) Section 404 (prohibits discharge of dredged or fill material into a wetland without a permit).

- 40 CFR Section 6.302(b) and 40 CFR Part 6, App. A, excluding § 6(a)(2), 6(a)(4), and 6(a)(6), implementing Executive Order 11988 (provides that actions must be taken to minimize potential harm in floodplains).

CDFG provided a list of proposed state ARARs for Site 30 in a memorandum dated August 3, 2004. The Navy has concluded that of the requirements provided by CDFG, the following are ARARs:

- California Fish and Game Code § 5650(a), (b), and (f): This section prohibits depositing or placing where it can pass into waters of the state any petroleum products, factory refuse, sawdust, shavings, slabs or edgings and any substance deleterious to fish, plant life or bird life.

- California Fish and Game Code § 3005: This section prohibits the taking of birds and mammals, including taking by poison.

- California Fish and Game Code § 1908: This section prohibits the taking of rare or endangered native plants.

- California Fish and Game Code § 2080: This section prohibits the take of any endangered or threatened species.

- California Fish and Game Code § 3511: This section provides that it is unlawful to take or possess listed fully protected birds.

- California Fish and Game Commission Wetlands Policy: This policy seeks to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California.

- California Fish and Game Code § 4700: This section prohibits the take or possession of listed fully protected mammals or their parts.

- California Fish and Game Code § 3503: This section prohibits the take, possession, or needless destruction of the nest or eggs of any bird except as otherwise provided.

- California Fish and Game Code § 3800: This section prohibits the take of nongame birds, except in accordance with the regulations of the commission.

- California Fish and Game Code § 8500: This section provides that it unlawful to possess or take, unless otherwise expressly permitted, mollusks, crustaceans, or other invertebrates unless a valid tidal invertebrate permit has been issued.

5.3 Action-specific Applicable or Relevant and Appropriate Requirements

Action-specific ARARs are technology- or activity-based requirements or limitations on actions taken with respect to hazardous wastes. These requirements are triggered by the specific removal or remedial activities selected and suggest how a selected removal alternative should be achieved. These action-specific requirements do not, in themselves, control the removal alternative; rather, they indicate how a selected alternative must be conducted. Therefore, action-specific ARARs are identified after an alternative has been selected because they depend on the action selected. Potential action-specific ARARs are discussed below.

Excavation

RCRA, the Federal Hazardous Materials Transpiration Law, the Clean Air Act, and the Clean Water Act are potential ARARs for excavation.

Resource Conservation and Recovery Act

- California Code of Regulations, Title 22, §§ 66261.10 and 66261.11 (determination of hazardous waste).
- California Code of Regulations, Title 22, § 66268.7 (prohibit disposal of hazardous waste unless treatment standards are met).
- California Code of Regulations, Title 22, § 66262.30 (RCRA packaging requirements).
- California Code of Regulations, Title 22, § 66262.31 (RCRA labeling requirements).
- California Code of Regulations, Title 22, § 66262.32 (RCRA marking requirements).
- California Code of Regulations, Title 22, § 66262.33 (RCRA placarding requirements).
- California Code of Regulations, Title 22, §§ 66262.20, 66262.21, 66252.22 and 66262.23 (RCRA manifest requirements).
- 40 CFR § 264.554(d)(1)(i–ii) and (d)(2), (e), (f), (h), (i), (j), and (k) (temporary staging piles).

Federal Hazardous Materials Transportation Law

Potential ARARs for transporting hazardous waste:

- Federal Hazardous Materials Transportation Law, Title 49 U.S.C. 5101 through 5127, Title 49 CFR 171.2(f), 171.2(g), 172.300, 172.301, 172.302, 172.303, 172.304, 172.312, 172.400, and 172.504 (requirements for transporting hazardous wastes, including representations that containers are safe, prohibitions on altering labels, marking requirements, labeling requirements, and placarding requirements).

Clean Air Act

The following Bay Area Air Quality Management District (BAAQMD) regulations are potential ARARs for excavation:

- Regulation 6-302: Opacity Limitation (prohibiting emissions for a period aggregating more than 3 minutes in any hour to greater than or equal to 20 percent opacity).

- Regulation 6-305: Visible Particles (prohibiting the emissions of particles in sufficient number to cause annoyance).

Clean Water Act

State Water Resources Control Board (SWRCB) Order 99-08 is the State of California General Permit for Discharge of Stormwater Associated with Construction Activities, issued pursuant to 40 CFR 122 Subpart C. The substantive permit requirements are the use of best management practices to prevent construction pollutants from contacting storm water and to keep erosion products from moving off site. During excavation, best management practices will be used to prevent construction pollutants from contacting storm water and to minimize erosional products from moving off site, in accordance with SWRCB Order 99-08.

Confirmation Sampling

There are no ARARs for the confirmation sampling planned as part of the alternatives.

Habitat Restoration

There are no action-specific ARARs for habitat restoration. Habitat will be restored in accordance with the location-specific ARARs identified above.

The 1988 California Fish and Game Commission wetlands policy is a TBC for habitat restoration.

6. Project Schedule

The site management plan notes that the removal action will commence by February 1, 2007, and will be completed by August 2, 2007.

B. ESTIMATED COSTS

The Navy has estimated the present worth of the removal action costs. The estimated costs include direct and indirect capital costs and post-removal site control (PRSC) costs of the removal action. The following items are considered capital costs and PRSC costs:

Task	Total Cost ($)
Excavation	
Pre-excavation sampling	$6,800
Preliminary/Preconstruction Activities	$263,700
Excavate debris	$46,300
Debris preparation and drying	$101,600
Transportation and Disposal	
Class I Facility	$685,700
Class II Facility	$85,100
Site Restoration	
Backfill material and compaction	$56,600
Area cleanup and fencing	$3,500
Greenhouse plants and planting	$35,000
Annual Pickleweed Inspection	$2,500
Post Construction Activities	$13,100
Oversight	$198,700
Subtotal	**$1,498,600**
Contingency (25 %)	$374,700
Removal Action Total	**$1,873,300**

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If action should be delayed or not taken, human and ecological receptors will continue to be potentially exposed to metals-contaminated debris wastes, sediment, and soil. Contamination may continue to spread to the offshore area by surface water runoff, tidal action, and to the subsurface sediment in low-lying areas of the site by leaching. Spread of contamination may result in increased endangerment of the aquatic and wetland environments.

VII. PUBLIC INVOLVEMENT

A draft action memorandum (SulTech 2005b) has been developed and was released for public and regulatory agency review and comment in July 2005. The administrative record for the entire Detachment Concord Installation Restoration Program, including Site 30, already exists. A summary of the comments received and Navy's responses is included as Attachment C of this final action memorandum. In April 2005 the Navy circulated the final EE/CA for public comment. The public comment period for the final EE/CA occurred from April 5 to May 5, 2005. The public comment period for the draft action memorandum was approximately 60 days from the date it was published. Regulatory agency and public comments received and Navy's response to those comments are included as Attachment C to this final action memorandum. The final EE/CA and other documents from the administrative record are available for public review in the information repository at the Concord Public Library, 2900 Salvio Street, Concord, California 95419, (925) 646-5455.

VIII. OUTSTANDING POLICY ISSUES

No outstanding policy issues exist for this removal action.

IX. RECOMMENDATION

To date, the Navy has not acquired evidence that identifies other potentially responsible parties at this site. However, information acquired in the future, including but not limited to, information acquired during implementation of this removal action or future response actions at the site, could result in the identification of other potentially responsible parties.

This action memorandum was prepared in accordance with current EPA and Navy guidance documents for NTCRAs under CERCLA. The purpose of this action memorandum was to identify and analyze removal actions to address metals-contaminated wastes and soils that pose a risk to human and ecological receptors at Site 30 at Detachment Concord.

Based on consideration of the removal action alternatives in Section V.A.3, the recommended removal action was Alternative 4, as described in the final EE/CA. The recommended action involves excavating debris and contaminated soil, disposing of excavated materials at a properly licensed off-site landfill, backfilling the excavations with imported clean fill material, and regrading and revegetating the excavated areas with native plants. This alternative is recommended because it provides a high degree of protection for human health and the environment, does not involve significant administrative or technical constraints, and is cost-effective. The Department of the Navy approves of the recommended removal action.

This decision document presents the selected removal action for Site 30 at Detachment Concord developed in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act, and consistent with the NCP. This decision is based on the administrative record for the site.

R. W. FOWLER **Date**
Captain, U.S. Navy
Commanding Officer

REFERENCES

Navy. 2004. "Navy Policy on the Use of Background Chemical Levels." January 30.

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TABLES

TABLE 1: FEDERAL CHEMICAL-SPECIFIC [a] APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Final, Action Memorandum, Site 30 Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Requirement	Prerequisite	Citation[b]	ARAR Determination	Comments
		SOIL		
Resource Conservation and Recovery Act (42 U.S.C., ch. 82, §§ 6901–6991[i]) [c]				
Defines RCRA hazardous waste. A solid waste is characterized toxic, based on the TCLP, if the waste exceeds the TCLP maximum concentrations.	Waste	CCR Title 22, §§ 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100	Applicable	Applicable for determining whether excavated waste is hazardous
Land Disposal Restrictions prohibit disposal of hazardous waste unless treatment standards are met.	Hazardous waste land disposal	CCR Title 22 § 66268.7(f)	Applicable	This requirement is applicable if hazardous waste is to be disposed of on land.
EPA Region 9 Preliminary Remediation Goals		EPA Region 9 Preliminary Remediation Goals	To-be-considered	The PRGs are to-be-considered criteria for metals at Site 30.

Notes:

a Many potential action-specific ARARs contain chemical-specific limitations and are addressed in the action-specific ARAR tables.

b Only the substantive provisions of the requirements cited in this table are potential ARARs.

c Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table below each general heading; only pertinent substantive requirements of the specific citations are considered potential ARARs.

§ Section
§§ Sections
ARAR Applicable or relevant and appropriate requirement
CCR *California Code of Regulations*
ch. Chapter
PRGs Preliminary Remediation Goals
RCRA Resource Conservation and Recovery Act
TCLP Toxicity characteristic leaching procedure
U.S.C. *United States Code*

TABLE 2: STATE CHEMICAL-SPECIFIC [a] APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
Final, Action Memorandum, Site 30, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Requirement	Prerequisite	Citation[b]	ARAR Determination	Comments
		SOIL		
Cal/EPA Department of Toxic Substances Control[c]				
Definition of "non-RCRA hazardous waste."	Waste	CCR Title 22, § 66261.22(a)(3) and (4), § 66261.24(a)(2)–(a)(8), § 66261.101, § 66261.3(a)(2)(C) or § 66261.3(a)(2)(F)	Applicable	Applicable for determining whether a waste is a non-RCRA hazardous waste.
State Water Resources Control Board[c]				
Definitions of designated waste, nonhazardous waste, and inert waste.	Waste	CCR Title. 27, §§ 20210, 20220, and 20230	Applicable	Potential ARARs for classifying waste.

Notes:

a Many potential action-specific ARARs contain chemical-specific limitations and are addressed in the action-specific ARAR tables

b Only the substantive provisions of the requirements cited in this table are potential ARARs

c Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table below each general heading; only pertinent substantive requirements of the specific citations are considered potential ARARs

§ Section

§§ Sections

ARAR Applicable or relevant and appropriate requirement

CCR *California Code of Regulations*

TABLE 3: FEDERAL LOCATION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Final, Action Memorandum, Site 30 Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Federal					
Coastal Zone Management Act (16 U.S.C. §§ 1451–1464) [b]					
Within coastal zone	Conduct activities in a manner consistent with approved state management programs.	Activities affecting the coastal zone, including lands thereunder and adjacent shore land	16 U.S.C. § 1456(c) 15 CFR § 930	Applicable	The removal action will comply with the CZMA and San Francisco Bay Plan
Endangered Species Act of 1973 (16 U.S.C. §§ 1531–1543) [b]					
Habitat upon which endangered species or threatened species depend	Federal agencies may not jeopardize the continued existence of any listed species or cause the destruction or adverse modification of critical habitat. The Endangered Species Committee may grant an exemption for agency action if reasonable mitigation and enhancement measures such as propagation, transplantation, and habitat acquisition and improvement are implemented.	Determination of effect upon endangered or threatened species or its habitat. Critical habitat upon which endangered species or threatened species depend.	16 U.S.C. § 1536(a), (h)(1)(B)	Applicable	Applicable if endangered species are found at TBB Disposal Site
Executive Order No. 11990, Protection of Wetlands [b]					
Wetland	Action to minimize the destruction, loss, or degradation of wetlands	Wetland as defined by Executive Order No. 11990, Section 7	40 CFR § 6.302(a)	Applicable	Applicable to activities that result in the destruction, loss, or degradation of wetlands
Clean Water Act of 1977, as Amended, § 404 (33 U.S.C. § 1344) [b]					
Wetland	Action to prohibit discharge of dredged or fill material into wetland without permit	Wetland as defined by Executive Order No. 11990, Section 7	33 U.S.C. § 1344	Applicable	If the response action involves the discharge of dredged or fill material into a wetland, it will be conducted in accordance with the substantive provisions of this requirement.

TABLE 3: FEDERAL LOCATION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (CONTINUED)

Final, Action Memorandum, Site 30 Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Exec. Order No. 11988, Floodplain Management[b]					
Within floodplain	Actions taken should avoid adverse effects, minimize potential harm, restore and preserve natural and beneficial values.	Action that will occur in a floodplain (i.e., lowlands) and relatively flat areas adjoining inland and coastal waters and other flood-prone areas.	40 CFR § 6.302(b) 40 CFR pt. 6, app. A, excluding § 6(a)(2), 6(a)(4), and 6(a)(6)	Relevant and Appropriate	Substantive provisions may be potentially relevant and appropriate this removal action.

Notes:

§	Section
§§	Sections
ARAR	Applicable or relevant and appropriate requirement
CCR	*California Code of Regulations*
CFR	*Code of Federal Regulations*
CZMA	Coastal Zone Management Act
U.S.C.	*United States Code*

TABLE 4: STATE LOCATION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
Final, Action Memorandum, Site 30, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Aquatic habitat	Action must be taken if toxic materials are placed where they can enter the waters of the state	Materials entering the waters of the state	California Fish and Game Code § 5650(a)(b) and(f)	Relevant and Appropriate	This section is potentially relevant and appropriate.
Wildlife species	Action must be taken to prohibit the taking of birds and mammals.	Taking of birds and mammals	California Fish and Game Code § 3005	Relevant and Appropriate	This section is potentially relevant and appropriate.
Rare native plants	Prohibits the taking of rare or endangered native plants.	Taking of rare native plants	California Fish and Game Code §1908	Relevant and Appropriate	This section is potentially relevant and appropriate.
Endangered species habitat	No person shall import, export, take, possess, or sell any endangered or threatened species or part or product thereof.	Threatened or endangered species determination on or before 01 January 1985 or a candidate species with proper notification.	California Fish and Game Code § 2080	Relevant and Appropriate	This section is potentially relevant and appropriate.
Fully protected bird species/ habitat	Provides that it is unlawful to take or possess listed fully protected birds.	Taking of protected birds	California Fish and Game Code § 3511	Relevant and Appropriate	This section is potentially relevant and appropriate.
Wetlands	This policy seeks to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California.	Impact to wetlands	Fish and Game Commission Wetlands Policy (1988)	To-be-considered	This section is a potential to-be-considered criterion.
Fully protected mammals	This section prohibits the take or possession of listed fully protected mammals or their parts.	Taking of fully protected mammals	California Fish and Game Code § 4700	Relevant and Appropriate	This section is potentially relevant and appropriate.
Birds	This section prohibits the take, possession or needless destruction of the nest or eggs of any bird except as otherwise provided.	Taking of birds	California Fish and Game Code § 3503	Relevant and Appropriate	This section is potentially relevant and appropriate.
Nongame birds	This section prohibits the take of nongame birds except in accordance with the regulations of the commission.	Taking of nongame birds	California Fish and Game Code § 3800	Relevant and Appropriate	This section is potentially relevant and appropriate.

TABLE 4: STATE LOCATION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (CONTINUED)

Final, Action Memorandum, Site 30, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Location	Requirement	Prerequisite	Citation[a]	ARAR Determination	Comments
Tidal invertebrates	This section provides that it unlawful to possess or take, unless otherwise expressly permitted, mollusks, crustaceans, or other invertebrates unless a valid tidal invertebrate permit has been issued	Taking of invertebrates	California Fish and Game Code § 8500	Relevant and Appropriate	This section is potentially relevant and appropriate.

Notes:

a Only the substantive provisions of the requirements cited in this table are potential ARARs.

b Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader; listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as potential ARARs; specific potential ARARs follow each general heading; only substantive requirements of the specific citations are considered potential ARARs.

§ Section

§§ Sections

ARAR Applicable or relevant and appropriate requirement

CCR *California Code of Regulations*

TABLE 5: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Final, Action Memorandum, Site 30, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
		EXCAVATION			
Federal Requirements					
RCRA (42 U.S.C., ch. 82, §§ 6901-6991[i]) *					
On-site waste generation	Person who generates waste shall determine if that waste is a hazardous waste.	Generator of waste	CCR, Title 22 §§ 66262.10(a), 66262.11	Applicable	Applicable where hazardous waste is generated
LDRs prohibit disposal of hazardous waste unless treatment standards are met.	Hazardous waste land disposal	CCR, Title 22, § 66268.1(f)	CCR, Title 22, § 66268.1(f)	Applicable	Applicable if hazardous waste is to be disposed of on land
Waste pile	Allows generators to accumulate solid remediation waste in a U.S. EPA-designated pile for storage only, up to 2 years, during remedial operations without triggering LDRs.	Hazardous remediation waste temporarily stored in piles.	40 C.F.R. § 264.554(d)(1)(i–ii) and (d)(2), (e), (f), (h), (i), (j), and (k)	Relevant and appropriate	May be ARARs for temporary waste storage.
Pre-transport requirements	Hazardous waste must be packaged in accordance with DOT regulations prior to transport	Any operation where hazardous waste is generated	CCR, Title 22 § 66262.30	Applicable	Applicable if hazardous waste is to be transported
	Hazardous waste must be labeled in accordance with DOT regulations prior to transport	Any operation where hazardous waste is generated	CCR, Title 22 § 66262.31	Applicable	Applicable if hazardous waste is to be transported
	Provides requirements for marking hazardous waste prior to transport	Any operation where hazardous waste is generated	CCR, Title 22 § 66262.32	Applicable	Applicable if hazardous waste is to be transported
	A generator must ensure that the transport vehicle is correctly placarded prior to transport of hazardous waste.	Any operation where hazardous waste is generated	CCR, Title 22 § 66262.33	Applicable	Applicable if hazardous waste is to be transported
	Requires preparation of a manifest for transport of hazardous waste off site	Any operation where hazardous waste is generated	CCR, Title 22 §§ 66262.20-66262.23	Applicable	Applicable if hazardous waste is to be transported

TABLE 5: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (CONTINUED)

Final, Action Memorandum, Site 30, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
Federal Hazardous Materials Transportation Law (49 U.S.C. §§ 5101-5127) *					
Transportation of hazardous material 49 U.S.C. §§ 5101-5127	Sets forth requirements for transporting hazardous waste, including representations that containers are safe, prohibitions on altering labels, marking requirements, labeling requirements, and placarding requirements	Interstate carriers transporting hazardous wastes and substances by motor vehicle	49 CFR §§ 171.2(f), 171.2(g), 172.300, 172.301,172.302, 172.303172.304, 172.312, 172.400, and 172.504	Relevant and appropriate	These requirements are relevant and appropriate for transporting hazardous materials on site.
Clean Air Act (42 U.S.C. § 7401 et seq.) *					
Excavation	Sets forth opacity limitations	Excavation	BAAQMD Regulation 6, Regulation 6-302	Applicable	This requirement is applicable for excavation activities.
Excavation	Prohibits the emission of particles in sufficient number to cause annoyance	Release of particles	BAAQMD Regulation 6-305	Applicable	This requirement is applicable for excavation activities.
Clean Water Act of 1988, as Amended, Section 404 (33 U.S.C., § 1344) *					
Stormwater discharge	Order 99-08-DQW is the State of California general permit for stormwater discharge from construction activities. It requires use of best management practices to reduce pollutants.	Storm water discharge	SWRCB Order 99-08 adopted pursuant to 40 CFR Part 122, Subpart C	Relevant and appropriate	Order 99-08—DQW applies to excavation activities that affect at least 1 acre. Pursuant to the substantive permit requirements, best management practices will be taken to prevent construction pollutants from contacting storm water and keep erosion products from moving off site.

TABLE 5: FEDERAL ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (CONTINUED)

Final, Action Memorandum, Site 30, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Notes:

* Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader. Listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table below each general heading; only substantive requirements of specific citations are considered potential ARARs.

§ Section
§§ Sections
ARAR Applicable or relevant and appropriate requirement
BAAQMD Bay Area Air Quality Management District
CCR *California Code of Regulations*
CFR *Code of Federal Regulations*
ch. Chapter
DOT U.S. Department of Transportation
DQW Department of Water Quality
LDR Land Disposal Restriction
PCB Polychlorinated biphenyl
ppm Part per million
RCRA Resource Conservation and Recovery Act
SWRCB State Water Resources Control Board
U.S.C. *United States Code*

TABLE 6: STATE ACTION-SPECIFIC APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

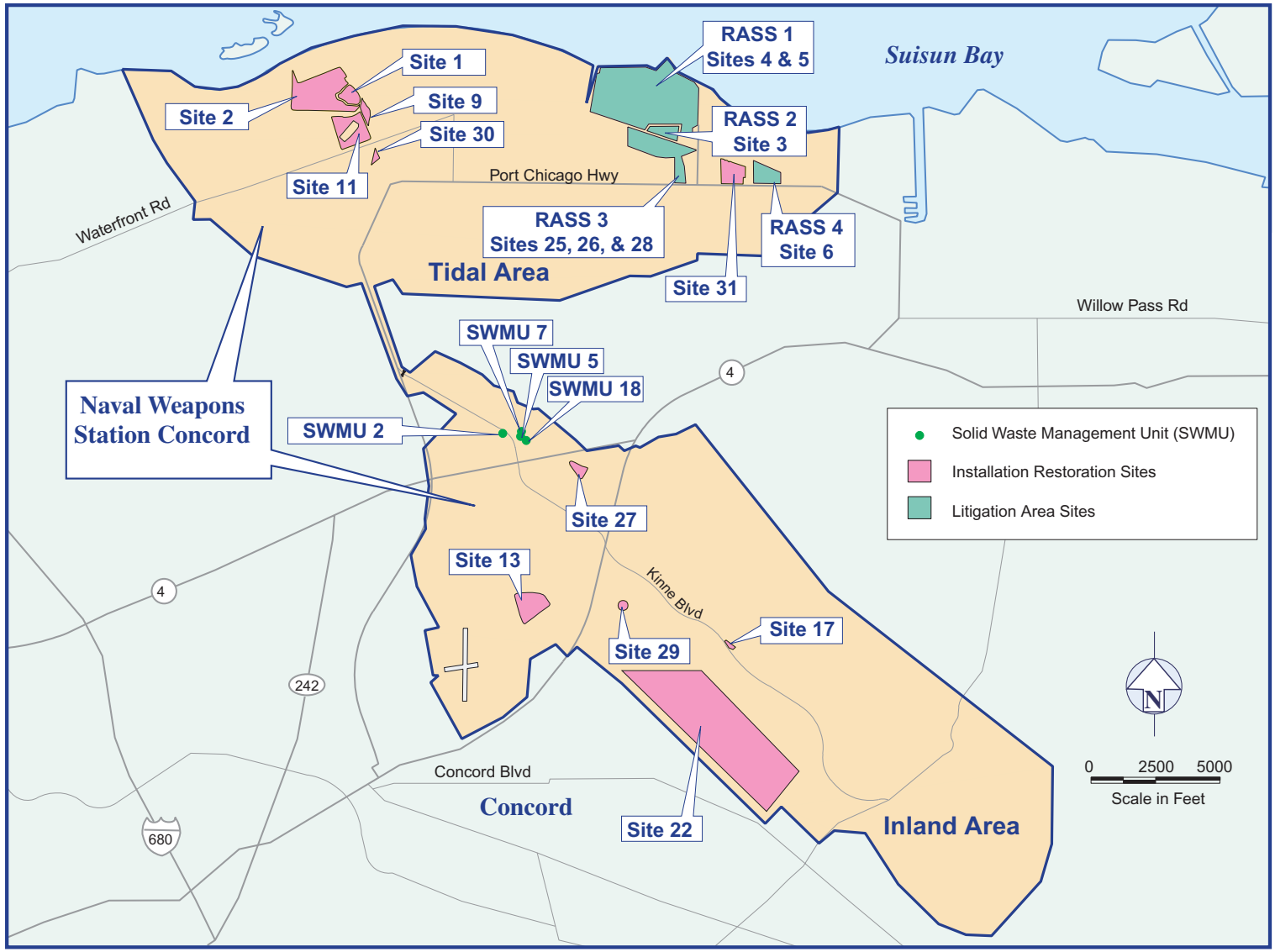
Final, Action Memorandum, Site 30, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Action	Requirement	Prerequisite	Citation	ARAR Determination	Comments
HABITAT RESTORATION					
Habitat Restoration	Sets for the policies for projects that may affect wetlands	Impact to wetlands	1988 California Fish and Game Commission Wetlands Policy	To-be-considered	The 1988 California Fish and Game Commission Wetlands Policy is a to-be- considered criterion for habitat restoration.

Notes:

* Statutes and policies, and their citations, are provided as headings to identify general categories of potential ARARs for the convenience of the reader. Listing the statutes and policies does not indicate that the Navy accepts the entire statutes or policies as potential ARARs; specific potential ARARs are addressed in the table below each general heading; only substantive requirements of specific citations are considered potential ARARs.

ATTACHMENT A
FIGURES



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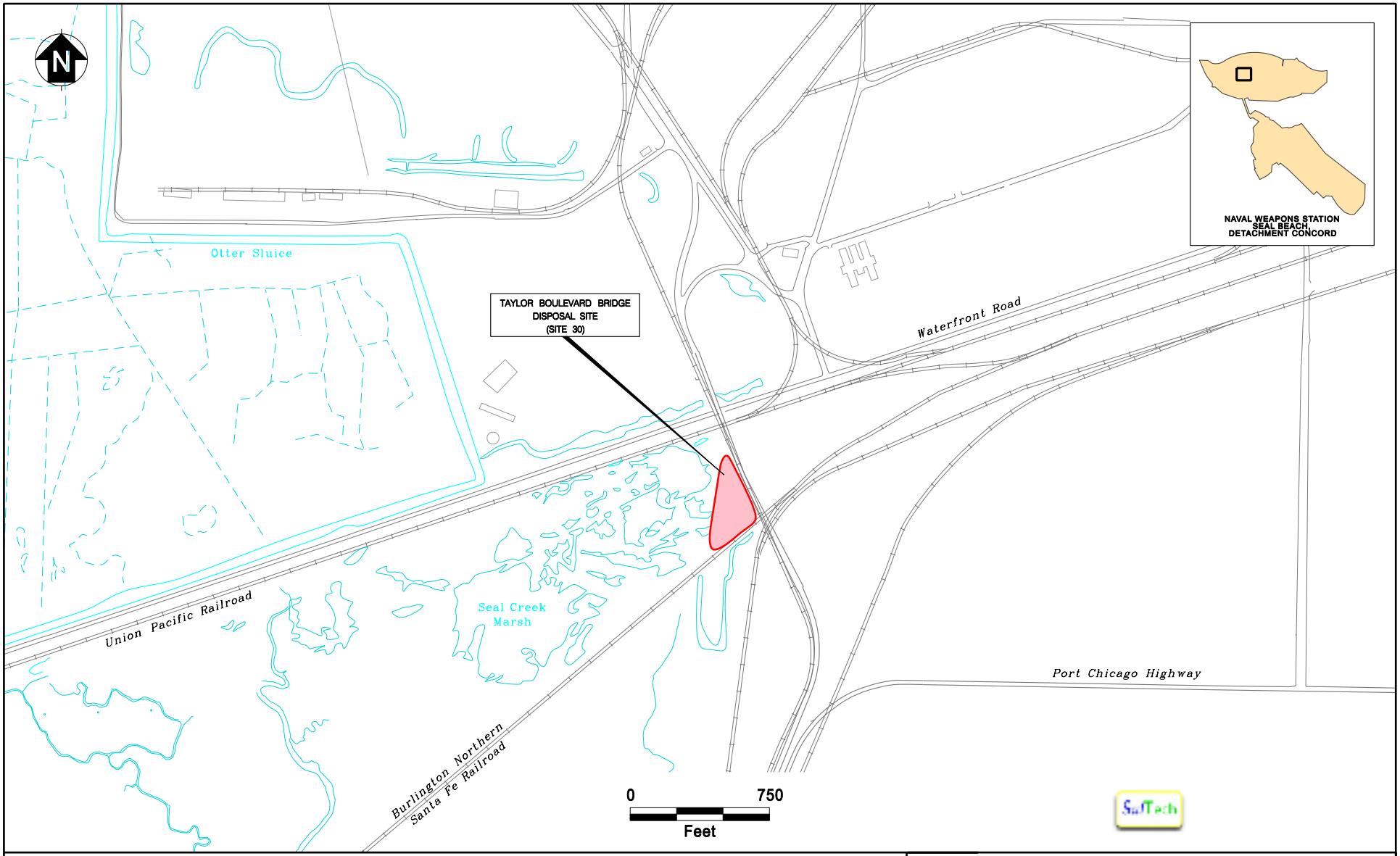
Naval Weapons Station Seal Beach Detachment
Concord, California
Naval Facilities Engineering Command, Daly City, CA

FIGURE 1
TIDAL AREA AND INLAND AREA INVESTIGATION SITES

ACTION MEMORANDUM
FOR THE TAYLOR BOULEVARD BRIDGE (SITE 30)



Railroad Tracks
Road
Building
Wetlands

Naval Weapons Station Seal Beach Detachment
Concord, California
Naval Facilities Engineering Command, Daly City, CA

FIGURE 2
LOCATION OF TAYLOR BOULEVARD BRIDGE DISPOSAL SITE

ACTION MEMORANDUM
FOR THE TAYLOR BOULEVARD BRIDGE (SITE 30)

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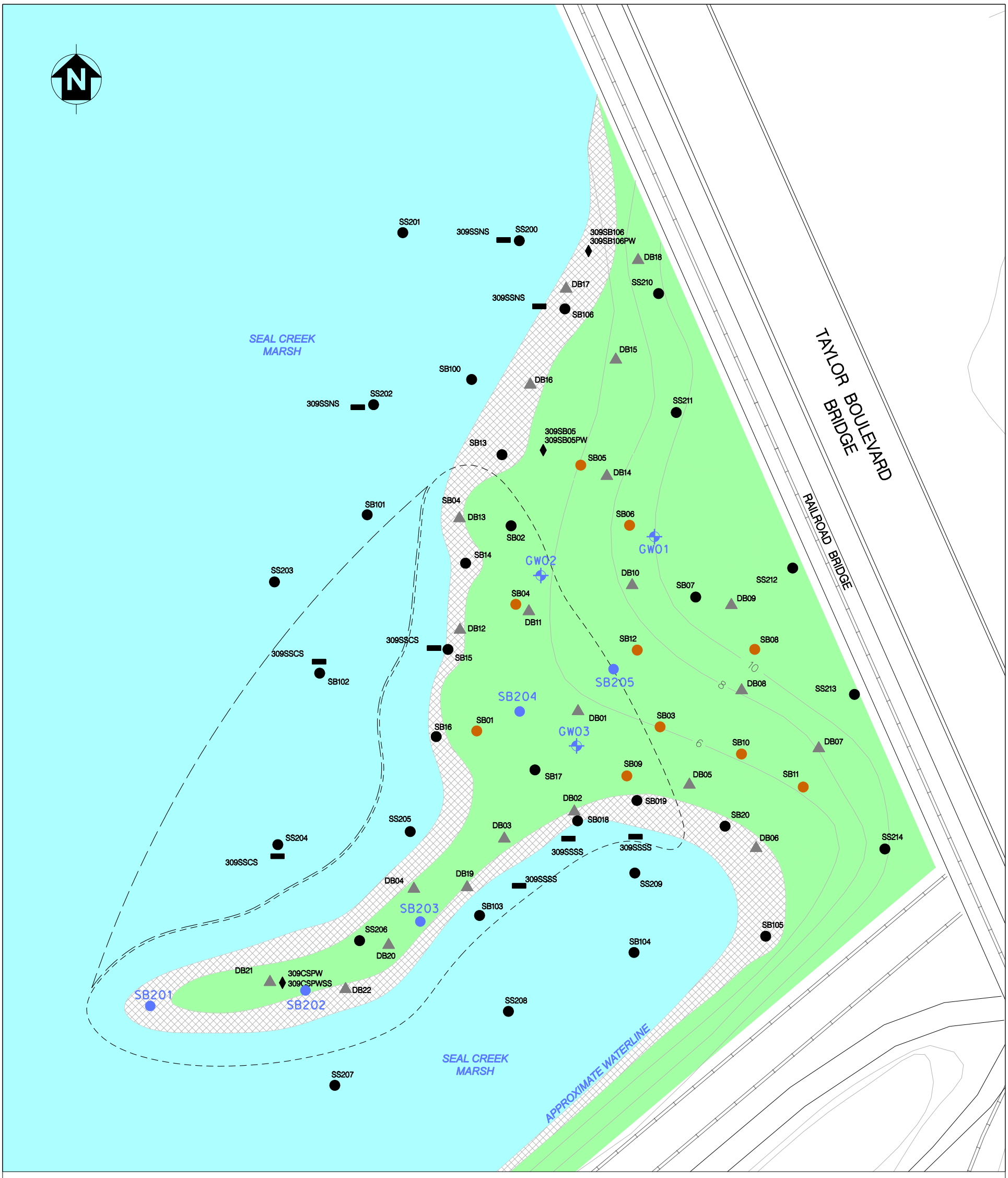

LEGEND:

- 2003 DEBRIS TEST HOLE AND SEDIMENT SAMPLE
- GROUNDWATER MONITORING WELL
- SOIL/SEDIMENT SAMPLE (0–0.5 FEET)
- SOIL/SEDIMENT SAMPLE (0–0.5 FEET AND 1.0–2.5 FEET)
- DEBRIS TEST HOLE
- 3 SAMPLES COMPOSITED FOR METALS ANALYSIS AND BIOASSAY
- PICKLEWEED TISSUE, COLLOCATED SEDIMENT ANALYSIS
- WETLAND AND UPLAND TRANSITIONAL HABITAT
- AQUATIC HABITAT
- SHORELINE: APPROXIMATE SEASONAL WATER LEVEL VARIATION
- APPROXIMATE SHORELINE
- 8 EXISTING ELEVATION CONTOURS
- APPROXIMATE EXTENT OF DEBRIS
- SCATTERED SURFACE DEBRIS

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Naval Weapons Station Seal Beach Detachment
Concord, California
Integrated Product Team West, Daly City, CA

FIGURE 3
SAMPLING LOCATION MAP
TAYLOR BOULEVARD BRIDGE DISPOSAL SITE

Action Memorandum for
the Taylor Boulevard Bridge Disposal Site

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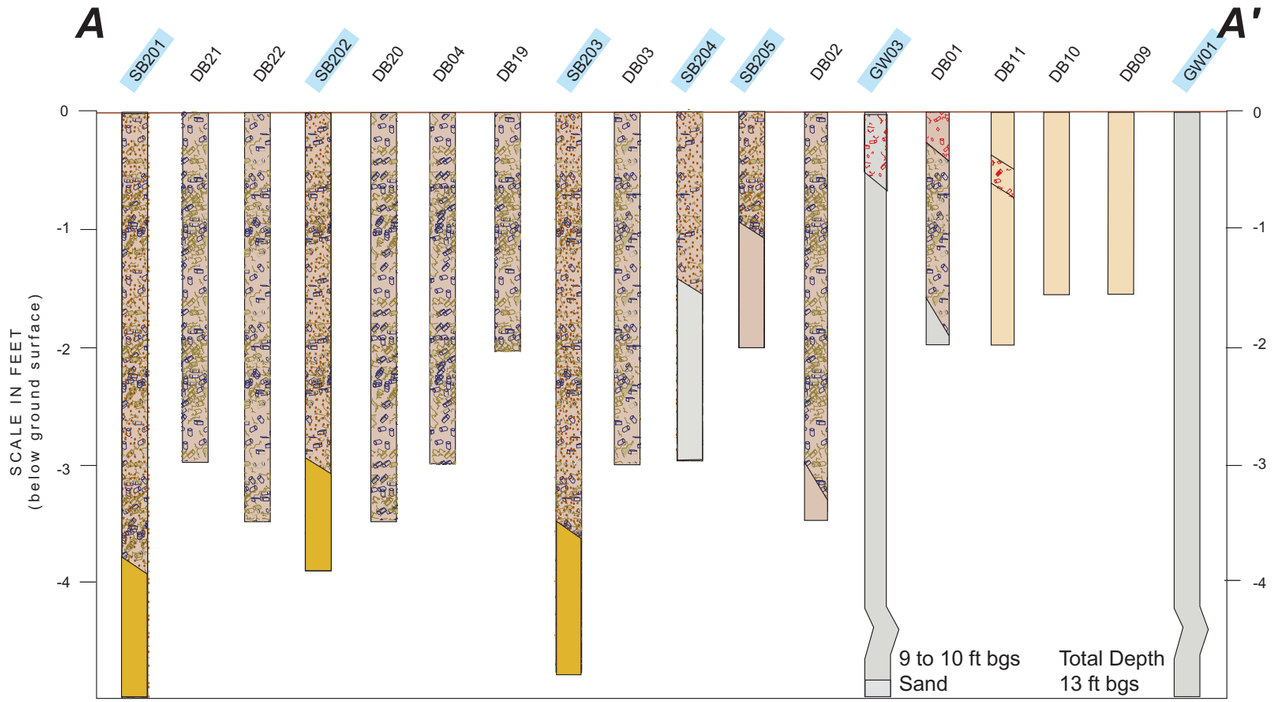

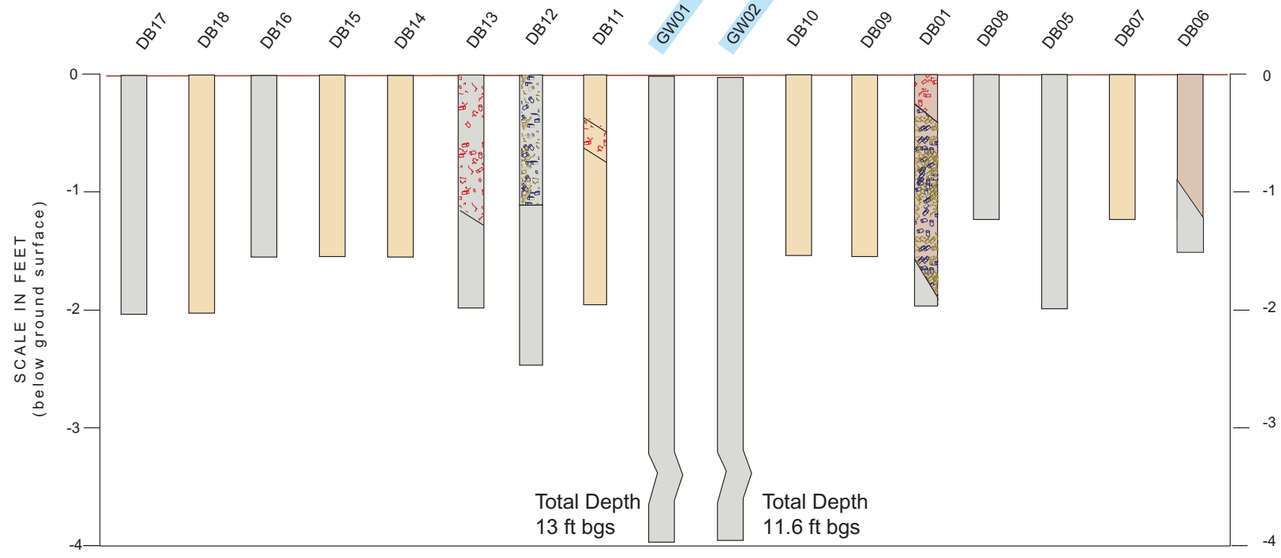

Notes:
Horizontal distances are not to scale
ft bgs = feet below ground surface

LEGEND

- Organic Silt
- Sandy Silt
- Clayey Silt
- Silty Clay
- Peat
- 2003 Location Debris Test Holes and Well Borings
- Debris Test Holes - no debris
- Debris Test Holes - with debris
- 2003 Debris Test Holes - with debris
- 2003 Well Borings
- Heavy Debris (>75%)
- Light Debris (<25%)
- Primary Surface and Subsurface Debris Area
- Scattered Surface Debris
- Shoreline: Approximate Seasonal Water Level Variation

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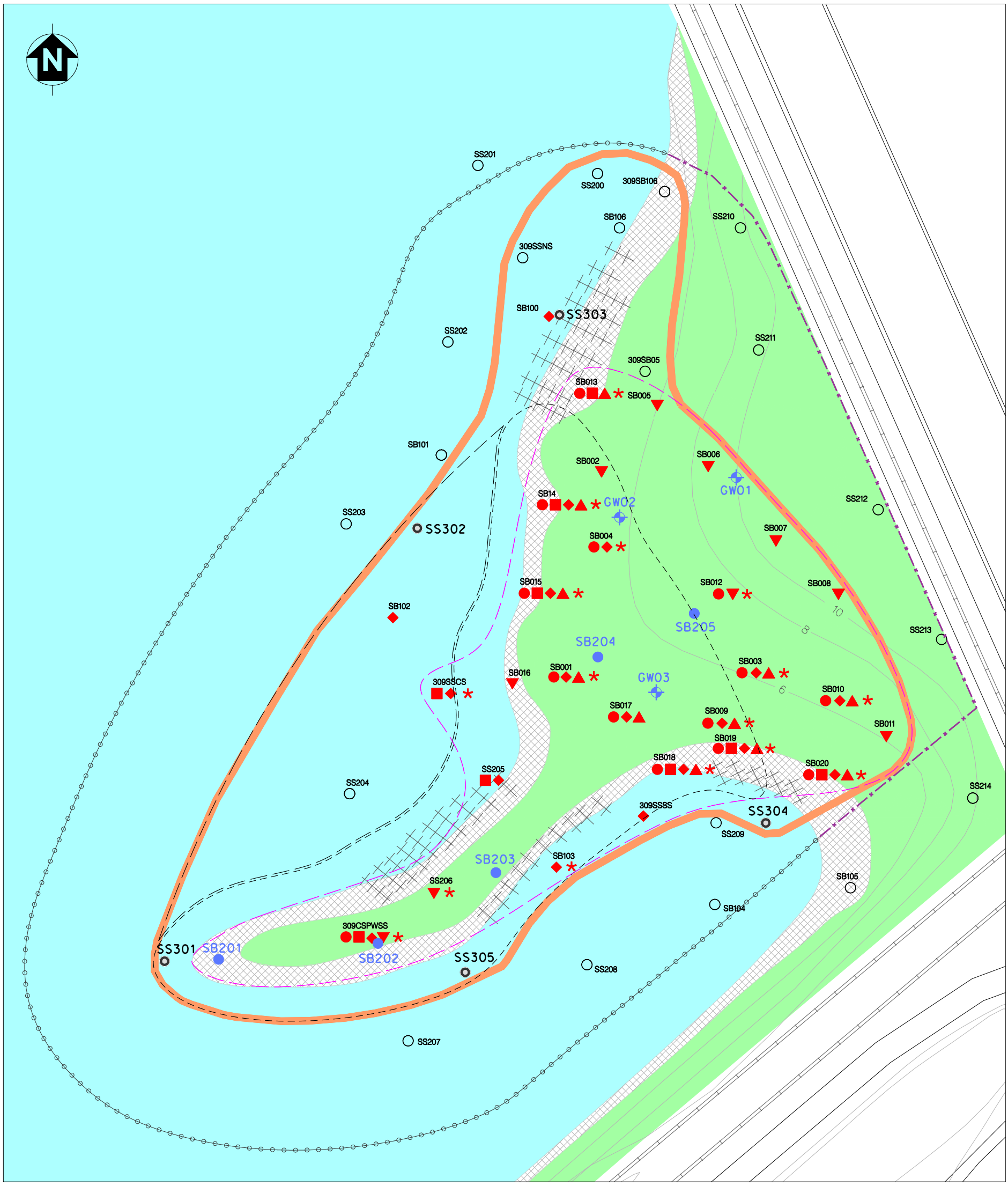
Concord, California
Naval Facilities Engineering Command, Daly City, CA

FIGURE 4
TAYLOR BOULEVARD BRIDGE
DISPOSAL SITE
DEBRIS TEST HOLE PROFILES

Action Memorandum
For The Taylor Boulevard Bridge (Site 30)



2005 PROPOSED PCB SAMPLING LOCATION

2003 DEBRIS TEST HOLE AND SEDIMENT SAMPLE

GROUNDWATER MONITORING WELL

MINIMAL RISK TO ASSESSMENT ENDPOINT RECEPTORS

RISK TO HUMAN HEALTH; LEAD PRG > 400 mg/kg.

RISK TO PLANTS INDICATED; SAMPLE LOCATION HAS FIVE OR MORE HQs GREATER THAN 1.0

RISK TO BENTHIC INVERTEBRATES INDICATED; ONE OR MORE MEAN ER-Mq GREATER THAN 1.5

RISK TO BIRDS INDICATED; SAMPLE LOCATION HAS ONE OR MORE METAL CONCENTRATIONS GREATER THAN 95th PERCENT UCL

RISK TO SALT MARSH HARVEST MICE INDICATED; SAMPLE LOCATION HAS TWO OR MORE HQ (Low Dose/High TRV) GREATER THAN 1.0

RISK TO SALT MARSH HARVEST MICE INDICATED; SAMPLE LOCATION HAS TWO OR MORE HQ (High Dose/High TRV) GREATER THAN 1.0

WETLAND AND UPLAND TRANSITIONAL HABITAT

AQUATIC HABITAT

SHORELINE: APPROXIMATE SEASONAL WATER LEVEL VARIATION

PRIMARY SURFACE AND SUBSURFACE DEBRIS AREA

SCATTERED SURFACE DEBRIS

APPROXIMATE RISK FOOTPRINT (HUMAN HEALTH + ECOLOGICAL)

AMPHIPOD TISSUE COLLECTION AREA

PROPOSED MOUSE FENCE

PROPOSED AQUA BARRIER

PROPOSED EXCAVATION AREA

NOTES:

ER-Mq	EFFECTS-RANGE MEDIAN QUOTIENT
HQ	HAZARD QUOTIENT
mg/kg	MILLIGRAMS PER KILOGRAM
PCB	POLYCHLORINATED BIPHENYLS
PRG	PRELIMINARY REMEDIATION GOAL
TRV	TOXICITY REFERENCE VALUE
UCL	UPPER CONFIDENCE LIMIT

SAMPLES 309SSNS, 309SSSS, AND 309SSCS ARE COMPOSITES POOLED FROM THREE SEDIMENT SAMPLES

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Naval Weapons Station Seal Beach, Detachment
Concord, California
Integrated Product Team West, Daly City, CA

FIGURE 5
ESTIMATED RISK TO ASSESSMENT ENDPOINT RECEPTORS TAYLOR BOULEVARD BRIDGE DISPOSAL SITE

Action Memorandum for
the Taylor Boulevard Bridge Disposal Site

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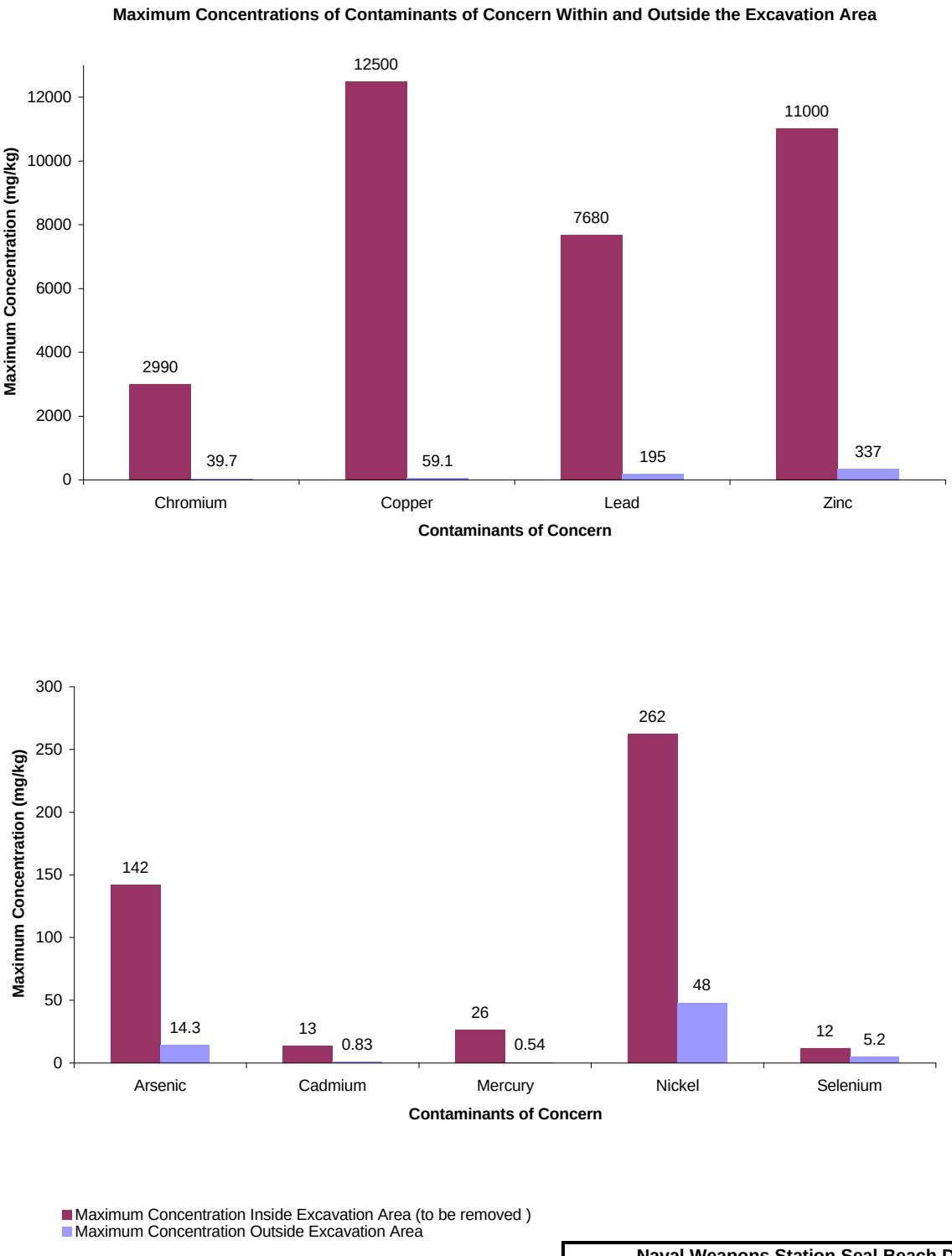
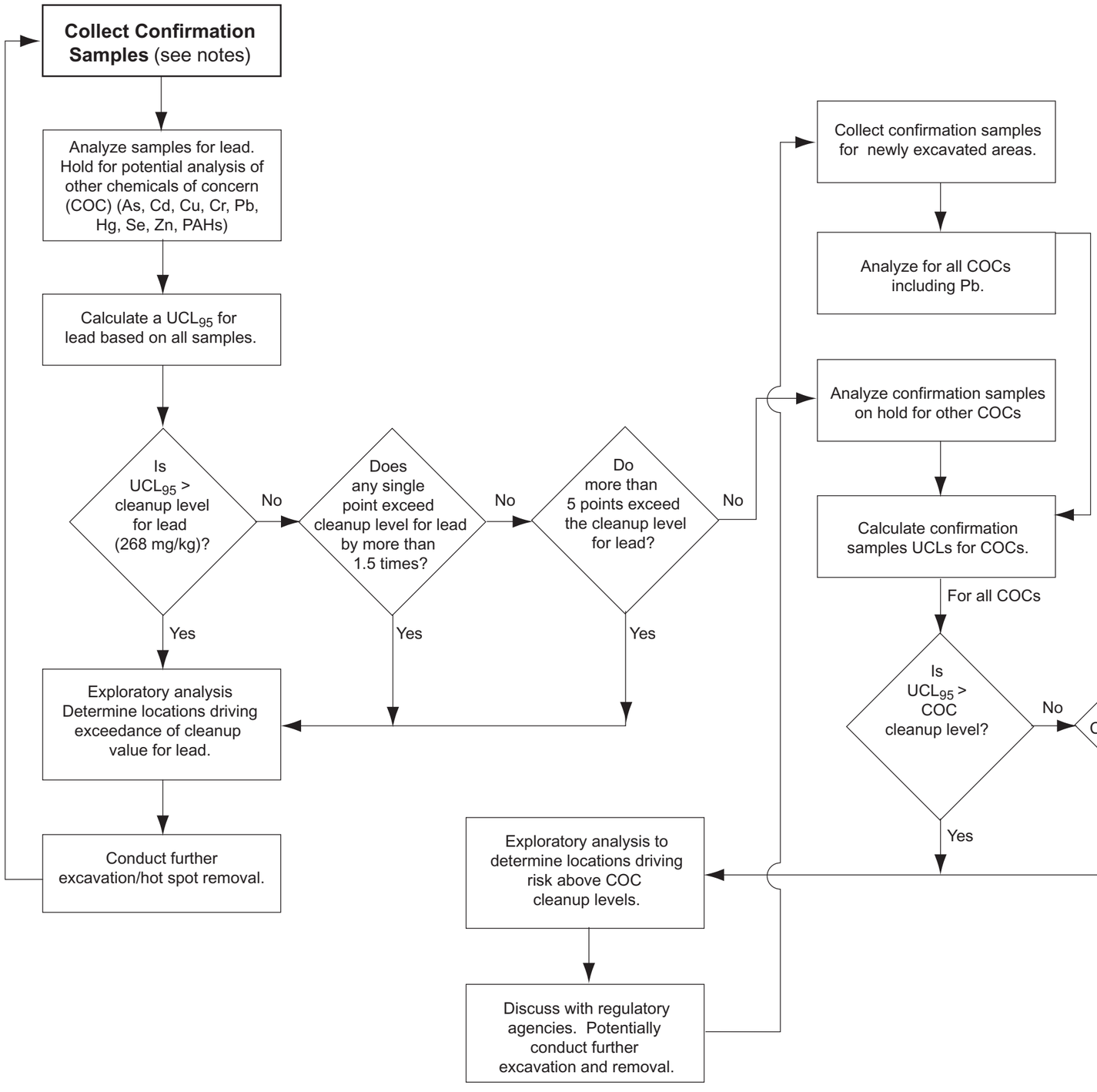


Naval Weapons Station Seal Beach Detachment
Concord, California
Naval Facilities Engineering Command, Daly City, CA

FIGURE 6
REMOVAL OF CHEMICALS OF CONCERN COLLOCATED WITH LEAD
ACTION MEMORANDUM
FOR THE TAYLOR BOULEVARD BRIDGE (SITE 30)



As	Arsenic
Cu	Copper
Cd	Cadmium
COC	Chemical of Concern
Cr	Chromium
EPA	U.S. Environmental Protection Agency
Hg	Mercury
PAH	Polynuclear Aromatic Hydrocarbon
Pb	Lead
Se	Selenium
Zn	Zinc
UCL_{95}	95th percent upper confidence limit of the mean
>	Greater than
mg/kg	Milligram per kilogram

Notes:

Excavation area will be divided into 35 x 35 foot grids. For each grid, one bottom confirmation sample will be collected. Sidewall samples will be collected every 35 feet around the perimeter of the excavation. This approach follows EPA 1989 guidance for attainment of cleanup levels.

EPA. 1989. "Methods for Evaluating the Attainment of Cleanup Standards. Volume I: Soil and Solid Media." EPA 230/02/89-042. February.

Cleanup goals are based on the maximum concentrations previously detected at sample locations outside the risk footprint (in mg/kg).

Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Zinc	PAHs
24.8	3.4	148	199	268	1.5	7.6	609	3.39

SulTech

Naval Weapons Station Seal Beach Detachment
Concord, California
Integrated Product Team West, Daly City

FIGURE 7
CONFIRMATION SAMPLING FLOW CHART

Action Memorandum for the Taylor Boulevard Bridge (Site 30)

ATTACHMENT B
EXECUTIVE SUMMARY FOR THE FINAL ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) NON-TIME CRITICAL REMOVAL ACTION FOR TAYLOR BOULEVARD BRIDGE DISPOSAL SITE (SITE 30) NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA, AND RESPONSES TO PUBLIC COMMENTS ON FINAL EE/CA

EXECUTIVE SUMMARY OF THE FINAL ENGINEERING EVALUATION/COST ANALYSIS, NON-TIME CRITICAL REMOVAL ACTION FOR TAYLOR BOULEVARD BRIDGE DISPOSAL SITE (SITE 30) NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD CONCORD, CALIFORNIA

This final report summarizes the engineering evaluation and cost analysis (EE/CA) process, characterizes the site, identifies removal action objectives, describes and analyzes removal action alternatives, and provides a comparative analysis of the alternatives for the non-time-critical removal action (NTCRA) at Site 30, the Taylor Boulevard Bridge (TBB) Disposal Site at Naval Weapons Station Seal Beach Detachment Concord (NWS SBD Concord) in Concord, California. This report also addresses agency and community comments made on the draft version of the report (Appendix C). This report was prepared in accordance with current U.S. Environmental Protection Agency (EPA) and Department of the Navy guidance for non-time-critical removal actions.

SITE BACKGROUND

Site 30 is located below and west of the TBB, on land adjacent to Seal Creek Marsh. Site 30 consists of an abandoned disposal site. Visible waste at the site, consisting of broken glass, burned metal, and partially burned wooden railroad ties, litters the ground surface at much of the site. Pickleweed borders most of the shoreline of the site.

Previous investigations at the TBB disposal site include five soil and sediment sampling events, focused sampling for the ecological risk assessment (ERA), and groundwater sampling conducted as part of the remedial investigation (RI) for the site. A screening-level human health risk assessment (HHRA) and screening-level ERA were conducted, as well as a baseline ecological risk assessment (BERA), as part of the RI process for the site.

The primary chemicals of concern (COC) at the site are the metals arsenic, cadmium, copper, chromium, iron, lead, mercury, selenium, and zinc. The current level of metals at the site poses probable risk to plant, invertebrate, and bird and mammal receptors. Because a marsh and pickleweed are present at the site, the salt marsh harvest mouse, a federally listed endangered species, is presumed present at the site and is therefore presumed to be at risk as well. Areas with the highest levels of contamination by metals are located where the debris is most concentrated, which is along the shoreline and in the center of the site. A "risk footprint" that shows the overlap of risk to each receptor by location was developed to identify the areas of highest risk to help establish the boundary for a removal action.

REMOVAL ACTION OBJECTIVES

The presence of elevated levels of chemicals (metals) in soil and debris at Site 30 presents a potential risk to humans and ecological receptors that are exposed to the site. Because the site is infrequently used by humans, exposure to humans is low; therefore, the threat to human health at Site 30 does not warrant an emergency or time-critical removal action (TCRA). However, the ecological risk posed by the site warrants the proposed NTCRA.

The proposed NTCRA will be undertaken under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (Title 40 of the Code of Federal Regulations, Part 300), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). These

regulations and the statute define removal actions as the cleanup or removal of released hazardous substances, actions to monitor the threat of release of hazardous substances, and actions to mitigate or prevent damage to public health or welfare or the environment.

Based on CERCLA and the NCP, the removal action objectives (RAOs) for the site are as follows:

- Promote overall protection of human health and the environment.
- Restrict the potential for humans and other ecological receptors to contact chemical- or solid-waste-contaminated soil near the ground surface within Site 30.

The following criteria are considered action levels for excavation of soil and debris within the known solid waste disposal area at Site 30:

- Visual observations will be used to verify that soil containing solid-waste-contaminated soil is fully removed both vertically and laterally.
- Data presented in the RI (Tetra Tech 2002) indicated elevated concentrations of metals posing a risk to human and ecological receptors were collocated with elevated levels of lead. Therefore, the maximum concentration of lead outside of the risk footprint (268 mg/kg), for which risk was not indicated to either ecological or human receptors, will be used as the action level to confirm the removal of contaminated soil.

REMOVAL ACTION ALTERNATIVES

Four removal action alternatives for addressing the contaminated soils, sediments, and debris were identified and developed under this EE/CA:

- Alternative 1: No action
- Alternative 2: Monitoring
- Alternative 3: Excavation, stabilization, on-site disposal, LUCs, and habitat restoration
- Alternative 4: Excavation, off-site disposal, and habitat restoration.

COMPARATIVE ANALYSIS OF REMOVAL ACTION ALTERNATIVES

A comparative analysis was conducted to evaluate the relative performance of each alternative. Each alternative was evaluated considering the NCP criteria of overall protectiveness of human health and the environment; compliance with applicable or relevant and appropriate requirements; long-term effectiveness; reduction of mobility, toxicity, or volume through treatment; short-term effectiveness; implementability; and cost.

Alternative 1, "No Action with Monitoring," does not include a removal action, but evaluation of Alternative 1 is required under CERCLA. Alternatives 1 and 2 do not provide adequate protection for human health or reduce ecological risks. Alternatives 1 and 2, therefore, do not meet the RAOs and are not expected to receive community or regulatory agency acceptance. Alternatives 3 and 4 are both effective in the long term and provide the maximum protection of human health and the environment. There is no cost for Alternative 1. The total cost for Alternative 2 is estimated at $382,000. The costs are estimated at $2.1 million for Alternative 3 and at $1.9 million for Alternative 4.

The individual and comparative analyses indicates that both Alternative 3 and 4 will provide acceptable levels of protection of human health and the environment and of long-term effectiveness and will comply with applicable or relevant and appropriate requirements (ARARs).

RECOMMENDED ALTERNATIVE

Based on the comparative analysis and relative ranking of the removal action alternatives, the Navy recommends Alternative 4, "Excavation, off-site disposal, and habitat restoration." Alternative 4 best meets the NCP criteria of overall protection of human health and the environment; compliance with ARARs; long-term effectiveness; implementability and cost.

RESPONSES TO REGULATORY AGENCY COMMENTS ON DRAFT ENGINEERING EVALUATION/COST ANALYSIS, NON-TIME CRITICAL REMOVAL ACTION FOR TAYLOR BOULEVARD BRIDGE DISPOSAL SITE (SITE 30) NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD CONCORD, CALIFORNIA

This document presents the U.S. Department of the Navy's responses to comments from the U.S. Environmental Protection Agency (EPA); the California Regional Water Quality Control Board (Water Board); the Restoration Advisory Board (RAB) Community Co-chair, Mary Lou Williams; Clearwater Revival Company (CRC) (on behalf of the Concord Naval Weapons Station – Local Reuse Association [LRA]); and the California Department of Fish and Game, Office of Spill Prevention and Response (DFG-OSPR), on the *Draft Engineering Evaluation/Cost Analysis Non-Time Critical Removal Action for Taylor Boulevard Bridge Disposal Site (Site 30), Naval Weapons Station Seal Beach Detachment Concord, Concord, California*, dated November 24, 2004. Comments were received from EPA on January 26, 2005, from the Water Board on January 27, 2005, from the RAB community co-chair on January 10, 2005, from CRC on January 25, 2005, and from the DFG-OSPR on February 4, 2005.

RESPONSES TO EPA COMMENTS

GENERAL COMMENTS

1. Comment: **In U.S. EPA's August 26, 2004, comments on a June 2004, Draft Final Remedial Investigation Addendum (or RI Addendum), the Navy was requested to conduct a limited pre-removal action sampling event to evaluate the extent of Polychlorinated Biphenyls (PCBs) contamination of sediment, in order to adequately assess associated ecological risks and confirm the risk footprint. However, pre-removal sampling is not discussed in this EE/CA. Since the Navy has not yet adequately assessed ecological risks associated with PCB contamination, please revise the EE/CA to include limited pre-removal sampling to confirm that the risk footprint addresses PCBs, as well as lead and other contaminants.**

Response: The Navy will collect pre-excavation samples to analyze for PCBs. The final engineering evaluation and cost analysis (EE/CA) will be revised to incorporate a discussion of the pre-excavation sampling.

2. Comment: **In the Draft EE/CA, numerical removal action objectives (RAOs) are established for lead and polycyclic aromatic hydrocarbons (PAHs) only, while (post-removal) confirmation samples are proposed to be analyzed for only lead. It is not clear from the information presented in the EE/CA that RAOs for lead and PAHs will also address arsenic, cadmium, copper, chromium, mercury, selenium, and zinc. It is also not clear how it will be determined if the RAO for PAHs has been attained if only lead analysis is performed on confirmation samples.**

Response: An analysis of the sampling data from the remedial investigation (RI) (Tetra Tech 2002) and RI addendum (Tetra Tech 2004) indicated that all chemicals of potential ecological concern (COPEC) were collocated with elevated concentrations of lead at the site. A data summary table and figure showing how lead is collocated with the other COPECs will be added to the EE/CA. The final EE/CA will not include a RAO for PAHs, however, because PAHs were also collocated with lead.

3. **Comment:** **The summary of investigation results presented in the EE/CA is not clear. The distribution and concentration of contaminants is summarized in very general terms. For example, the depth and concentrations of contaminants at each location are not provided; therefore, it is difficult to evaluate the effectiveness of the alternatives presented. Please revise the EE/CA to include a figure or figures summarizing RI data, including the depth and concentration of contaminants at each location.**

Response: The RI report (Tetra Tech 2002) and RI addendum (Tetra Tech 2004) provided a detailed description of the distribution and concentration of contaminants at the site. Table 4 will be revised in the final EE/CA to summarize relevant data from the RI.

4. **Comment:** **The extent of contamination near sample location SB201 remains undefined; however, the risk footprint assumes that the contamination does not extend beyond this point. It appears that limited pre-excavation sampling would allow the extent of contamination in this area to be better defined and the removal action better directed. Please revise the EE/CA to include pre-excavation sampling to define the extent of contamination to the west, north and south of SB201.**

Response: Text in the EE/CA will be revised to emphasize the role of the confirmation sampling program for the removal action. The Navy understands that confirmation samples collected during the removal action would ensure that the RAOs for the site are achieved. If the results for the confirmation samples indicate that contamination remains at the post-removal perimeter of boring SB201, then the removal action in the area would be expanded until RAOs are achieved.

5. **Comment:** **The Navy's Draft EE/CA does not include a "containment" - removal action alternative that was discussed and recommended by the U.S. EPA during Site 30 removal action scoping discussions; however, this omission is not fatal. U.S. EPA had requested that the Navy consider an on-site containment cap removal action alternative consisting of a soil cap and sheet piling or slurry wall. Given that a containment cap alternative does not address the Navy's goal of achieving a No-Further Action decision and unrestricted reuse for the site, the three-four removal action alternatives under development by the Navy (i.e., No-Action; Monitoring; On-Site solidification/stabilization; and, Excavation, Off-Site Disposal, and Backfill) are considered sufficient for**

the EE/CA. U.S. EPA does request that the Navy create separate alternatives to address No-Action and Monitoring.

Response: No action and monitoring will be evaluated as separate alternatives in the final EE/CA. Section 4.0 in the final EE/CA will be revised to discuss the containment option as follows: "When the removal alternatives were developed, either containing the waste using a sheet pile wall or stabilizing the waste in place was also considered. These two options were eliminated based on the following concerns:

1. "The pickleweed habitat is extremely sensitive to changes in elevation. Simply containing the groundwater (by using a sheet pile wall around the source of the waste) will not meet the RAOs developed for the site. Instead, a 2- to 3-foot 'cap' over the contaminated area would be required to prevent ecological receptors from contacting COPCs [chemicals of potential concern] and COECs [chemicals of potential ecological concern]. This cap will raise the elevation of the area and reduce the amount of habitat available to the SMHM [salt marsh harvest mouse], a federally listed endangered species.

2. "An in situ stabilization effort will increase the volume by 20 to 25 percent, raising the elevation of the site. This change in elevation will reduce the amount of habitat available to the SMHM."

SPECIFIC COMMENTS

1. Comment: **<u>Section 2.3.3 Contaminant Fate and Transport, Page 12</u>: This section states that "it appears that chemicals have not migrated vertically by leaching as evidenced by the lack of soil contamination at depths below 1 foot [below ground surface]"; however, this statement contradicts information in Section 2.3.2 that the sediment data suggest that leaching from the debris to subsurface sediment may be occurring in low-lying areas of the site closest to the shoreline. Please correct this discrepancy.**

Response: The sentence referenced in the comment will be revised as follows in the final EE/CA: "except for the peninsula or areas directly adjacent to the shoreline, chemicals have not migrated vertically by leaching as evidenced by the lack of soil contamination at depths below 1 foot [below ground surface.]"

2. Comment: **<u>Section 2.4.1 Summary of Human Health Risk Evaluation, Page 13</u>: For the screening evaluation, Site 30 was divided into Areas A and B; however, these areas are not shown on a Figure. Please revise the EE/CA to clarify whether Area A, defined by the 400 mg/kg isopleth for lead, is the same as the risk footprint shown on Figure 5.**

Response: Area A is within the risk footprint. Figure 6 shows the locations where concentrations of lead exceed 400 milligrams per kilogram (mg/kg) (designated using the * symbol). As shown on Figure 6, all locations that exceeded 400

mg/kg were within the risk footprint. The final EE/CA will be modified for clarification.

3. **Comment:** **<u>Section 2.4.1 Summary of Human Health Risk Evaluation, Page 14</u>: This section states that concentrations of contaminants of potential concern (COPCs) in the remaining soil and sediment (outside the risk footprint) would be within U.S. EPA's target levels considered protective of human health. But in the same paragraph, it states that after soil and sediment are remediated within the risk footprint, arsenic would remain at concentrations above EPA Region 9 residential preliminary remediation goal (PRGs). These statements appear to be contradictory. Please revise this section to clarify that the risk footprint, as presented, does not address all areas of risk.**

Response: The final EE/CA will be revised as follows: "Although arsenic would remain at concentrations above the EPA Region 9 preliminary remediation goals after remediation, concentrations would be below the Tidal Area ambient value (27 mg/kg) at all locations."

4. **Comment:** **<u>Section 2.4.2 Summary of Ecological Risk Evaluation, Page 15</u>: At the bottom of this page, it indicates that the location of risk to each receptor was used to help establish the boundary for remedial action; however, the risk footprint shown on Figure 5 is the 400 mg/kg isopleth for lead. It bears no relationship to the areas of ecological risk and was not changed to address areas identified in the ecological risk evaluation. Two points, SB100 and SB102 are identified as locations of "risk to birds", but they are outside the risk footprint. Please revise the risk footprint to take into account all areas of ecological risk in addition to the human health risk represented by the 400 mg/kg isopleth for lead.**

Response: The two locations were consciously omitted from the risk footprint because risk was indicated to birds only from selenium; however, the Navy has since decided to expand the excavation footprint to include the locations of borings SB100 and SB102 (Figure 6, final EE/CA). The corresponding increase in the potential volume of excavated material and its corresponding impact on the associated cost will be incorporated into the final EE/CA.

5. **Comment:** **<u>Section 3.2.4.2 Location-Specific ARARs, Page 19</u>: It is not clear why Sections 1908, 3511, and 5050 of the California Fish and Game Code were not retained as potential ARARs. For example, it is not clear how it can be known that Section 1908, prohibiting the taking of rare or endangered native plants, would not be an ARAR unless it is known that no rare or endangered native plants are present at the site; similarly, for fully protected birds and fully protected reptiles and amphibians. Please revise the EE/CA to clarify if an ecological survey was performed and which species were found to be present at the site or retain these Fish and Game Code sections as potential ARARs until the species present at the site are confirmed.**

Response: Ecological surveys for endangered plants on Naval Weapons Station Seal Beach Detachment Concord (NWS SBD) Concord are conducted under the Navy's Natural Resources Management Program (NRMP). Based on the results of the NRMP surveys, no rare or endangered native plants have been identified in the vicinity of Site 30. If the Navy were to discover rare or endangered native plants during implementation of the removal action, the Navy will comply with the substantive requirements of Section 1908 of the California Fish and Game Code. Similarly, the Navy has not observed any fully protected birds near Site 30, which are the subject of Fish and Game Code Section 3511. If any fully protected birds are discovered at the site, the Navy will comply with the substantive requirements of Section 3511. In addition, the Navy is not aware of the existence of any fully protected reptiles or amphibians at the site that are protected by Fish and Game Code Section 5050. If any fully protected reptiles or amphibians are discovered at the site, the Navy will comply with the substantive requirements of Section 5050.

6. Comment: **<u>Section 4.1 Mobilization/Demobilization, Page 26</u>: The discussion of the mitigation of impacts on the Salt Marsh Harvest Mouse (SMHM) includes proposals to trap and relocate SMHM prior to removal activities and to construct a mouse-proof fence. It should be noted that trapping of the SMHM may not be permitted. A method of removing SMHM from the site is hand removal of vegetation to eliminate habitat prior to the removal action. This may have impacts on the cost and schedule of the alternatives. Please revise the EE/CA to include only those methods of removing and protecting the SMHM that are acceptable to the United States Fish and Wildlife Service (USFWS) and California Fish and Game to ensure that those methods are reflected in the cost estimates and schedule for the alternatives.**

Response: Within a year prior to the start of the removal action, the Navy will survey for the presence or absence of the SMHM to evaluate whether coordination with USFWS is necessary. If SMHM are present on the site, the Navy will coordinate with the USFWS for concurrence on the plan for the removal that is adequately protective of the SMHM. The SMHM removal plan proposed for Site 30 is similar to a program implemented at Site 2, Naval Security Group Activity (NSGA) Skaggs Island in Sonoma County, California, and received the concurrence of the USFWS. Additionally, if the SMHM is found at the site, an independent biological monitor will be present at all times to monitor the removal action to ensure that the SMHM is protected. The draft EE/CA currently factors in the cost of the biological monitor. The final EE/CA will clarify that the biological monitor would be an "independent" function of the removal action.

7. Comment: **<u>Section 4.2 Excavation, Page 27</u>: The dewatering discussion states that dewatering will be limited to situations that require unobstructed dry access to the bottom of the excavation. It is not clear what is meant by this statement. It appears that, since debris will be identified visually during excavation, dewatering will be necessary to allow visual**

observation of the bottom to confirm that all debris has been removed. Please revise the EE/CA to clarify the method to be used to verify, visually, that all debris has been removed and under what circumstances dewatering will be required.

Response: The final EE/CA will be revised to include a separate discussion on dewatering as a component of the removal action alternatives. Advance dewatering will facilitate a relatively dry removal process to allow for the efficient collection of confirmation samples. Also, as part of Alternative 4; debris may need to be dewatered by one or more processes, including air drying, mixing, and gravity drainage after it has been excavated and before it is transported to a landfill.

8. Comment: **Section 4.3 Confirmation Sampling Program, Page 27: This section states that lead is the primary inorganic chemical of concern and that other COPC and contaminants of ecological concern (COECs) appear to be collocated with the lead contamination. However, the EE/CA does not provide justification for this statement. Please revise the EE/CA to include a discussion of the COPCs and COECs in order to justify the use of lead alone in the confirmation sampling program; or, preferably, include all COPCs and COECs in the confirmation sampling program, including any new COPCs identified during the requested pre-removal sampling.**

Response: A focused discussion and an associated reference figure will be incorporated into Section 4.4 of the final EE/CA. The discussion and figure will illustrate the Navy's understanding that the excavation of lead-contaminated debris effectively remediates the elevated concentrations of other COPECs and COECs associated with ecological risk at Site 30.

9. Comment: **Section 4.6.1.2 Compliance with ARARs/TBC Guidance - Alternative 2, Page 32: The third sentence of this section refers to pre-excavation sampling; however, pre-excavation sampling is not discussed anywhere in the EE/CA, and it is not clear if pre-excavation sampling is proposed. Please revise the EE/CA to clarify whether pre-excavation sampling will be performed and what it will consist of.**

Response: The Navy will collect pre-excavation samples to analyze for PCBs. The EE/CA will be revised to incorporate a discussion of the pre-excavation sampling. Please see the response to EPA General Comment 1.

10. Comment: **Section 4.6.1.2 Compliance with ARARs/TBC Guidance - Alternative 2, Page 32: The text indicates that, once stabilized, the waste should no longer be hazardous. In addition to the soluble toxicity criteria, California requires that any waste with a total lead concentration greater than 1000 ppm be handled as a non-RCRA hazardous waste. Substantial amounts of the material to be excavated during this effort may fall into that category and will require special handling and disposal at a landfill licensed to accept California non-RCRA hazardous waste.**

Please revise the text to include the California Total Toxicity Limit Concentration (TTLC) criteria.

Response: The EE/CA will be revised to include the total threshold limit concentrations (TTLC) criteria at California Code of Regulations Title 22, Section 66262.24(a)(2), which lists the TTLCs and the soluble threshold limit concentrations (STLCs) for non-Resource Conservation and Recovery Act (RCRA) hazardous waste.

11. Comment: **Section 4.6.1.2 Compliance with ARARs/TBC Guidance - Alternative 2, Page 33: This section considers the possible necessity of obtaining a permit for "take" for the SMHM; however, this discussion is inconsistent with the requirements of the Fish and Game Code Section 4700. Permits for take are limited to necessary scientific research. Please revise this section to clarify that the Navy will implement measures acceptable to the USFWS to protect the SMHM, prior to the removal action.**

Response: Please see the response to EPA Specific Comment 6.

12. Comment: **Section 4.7.1.2 Compliance with ARARs/TBC Guidance, Page 39: Same comment as above.**

Response: Please see the response to EPA Specific Comment 6.

13. Comment: **Section 5.2 Implementability, Page 46: The EE/CA concludes that Alternative 2 is more difficult to implement than Alternative 3 because of the requirements for the soil disposal cell; however, the requirements for the soil disposal cell and its difficulty are not discussed under Alternative 2. For clarity and completeness, please revise the EE/CA to discuss the requirements for the soil disposal cell under Alternative 2.**

Response: The final EE/CA will be revised to include preliminary design considerations for a soil disposal cell.

14. Comment: **Table 4 Development of Risk Footprint: Two of the sample locations that were excluded from the risk footprint are identified on Figure 5 as "risk to birds indicated". SB102 is listed in Table 4 as below Tidal Area Ambient levels for all COCs. Please revise the EE/CA to clarify whether risk is indicated at these locations and, if so, include them in the risk footprint.**

Response: The risk footprint will be expanded to include the two sampling locations in the final EE/CA, as described in response to EPA Specific Comment 4.

15. Comment: **Table 5 Summary of Remedial Action Alternatives: This table does not include negotiations with the railroads for crossing the tracks under Preconstruction Activities. Since gaining permission to construct a**

crossing could take some time, please include this item under Preconstruction Activities.

Response: Table 5 will be revised in the final EE/CA to reflect a potential timeline for negotiations with the railroads.

16. **Comment:** **Table 6, Removal Action Comparative Analysis, Page 1 of 1: The analysis of Alternatives 2 and 3 related to their respective reductions in toxicity, mobility, and volume through treatment does not make sense. Both Alternatives 2 and 3 consist of excavation and on-site or off-site disposal, respectively. The indication that Alternative 2 results in effective reduction of toxicity and mobility, while Alternative 3 does not is not valid. Please revise this table so that the analysis of these alternatives is technically defensible.**

Response: Table 6 will be revised accordingly in the final EE/CA

17. **Comment:** **Table 8 Cost Estimate Summary for Remedial Alternatives: This table lists $1,752,502 as the net present value (NPV) for Alternative 3, but Table 6 lists 1.6 million as the NPV. Please correct this discrepancy.**

Response: Table 8 will be corrected in the final EE/CA.

18. **Comment:** **Figure 6, Proposed Haul Road Taylor Boulevard Bridge Site Access Road: As an alternate haul road/site access route, please clarify if the Navy has assessed access to Site 30 from a paved road shown on the figure that is approximately 250-feet southeast of the site (from the figure, the alternate road would need to cross three sets of tracks, but may be a much shorter distance for establishing a temporary road).**

Response: Preliminary discussions with the Union Pacific Railroad revealed that high-speed trains cross the three tracks 250 feet southeast of the site, and Union Pacific would not grant the Navy a permit to cross these tracks. The haul road will not be paved because the work will be conducted in the summertime.

RESPONSES TO WATER BOARD COMMENTS

A. GENERAL COMMENTS

1. **Comment:** **The Navy needs to insure that the project meets Water Quality Objectives for chemical pollutants as defined in the 1995 San Francisco Bay Basin Plan. The Navy will have to meet freshwater objectives as the wetland waters are defined as an estuarine water body.**

Response: The final EE/CA will include a focused discussion on dewatering as one of the principal pre-construction activities. An aqua barrier will be installed around the site (Figure 6, final EE/CA), and the site will be dewatered before any debris is removed. With the engineering controls in place and a stipulation that the

removal action will take place only during the summer, the Navy understands that the removal action will be relatively dry. Any water generated as a part of the removal action, either as a function of the confirmation sampling process or the potential need to dry excavated waste, will be containerized, analyzed, and disposed of appropriately at a licensed facility, if necessary.

2. Comment: The project will require permit application as it might discharge sediment laden decant waters into waters of the United States. Hence, Water board staff recommends that the Navy consults the appropriate federal agencies to apply for NEPA and a 404 permit. Finally, if it is determined that a State issued 401 water quality certification is required for the proposed remedial activities, the Navy will need to follow CEQA guidance.

Response: The National Environmental Policy Act (NEPA) does not apply to actions taken in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Like NEPA, CERCLA and the NCP establish a decision-making process for cleanup of past contamination that involves public notice and participation. The U.S. Department of Justice has expressed the opinion that these provisions of CERCLA, enacted into law after NEPA, are the functional equivalent of the NEPA process. Accordingly, compliance with the requirements of CERCLA satisfies NEPA's twin objectives of informed decision-making and public participation."

The California Environmental Quality Act (CEQA) is applicable to state discretionary decision-making, but not to actions of the federal government. U.S. EPA and the Department of the Navy have determined that the requirements of the CEQA are no more stringent than the requirements for environmental review under CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA). Pursuant to the provisions of CERCLA, the NCP, and other federal environmental impact evaluation requirements, selecting a remedial action with feasible mitigation measures and provision for public review is designed to assure that the proposed action provides for short- and long-term protection of the environment and public health. Hence, CERCLA performs the same function as, and is functionally equivalent to, the states requirements under CEQA.

3. Comment: The report fails to address the treatment of on site groundwater and surface water generated by the leaching of contaminants and proposed remedial actions. Please address this data gap in the final report.

Response: After construction of the temporary dewatering berm, the enclosed body of water will be pumped outside of the berm. No site work will be conducted during this time. After that area is dewatered, it will be the Navy's goal to avoid further dewatering during the construction effort. The waste will be excavated in a wet or moist condition and then will be hauled to an area where the waste

will be dried by spreading the materials to dry in the sun and wind. The final EE/CA will be revised to indicate that minimal water will be stored on site during the excavation effort. Any water collected after the site is disturbed during construction will be stored on site, analyzed, and disposed of at a licensed facility, if necessary.

4. **Comment:** **Water board staff recommends including a post remedial action monitoring plan in the report to include groundwater and ecosystem health monitoring.**

   Response: The RI and RI addendum indicate that there are no impacts to groundwater as a result of buried debris at the site, except where debris is in contact with groundwater. Since Alternative 4 (excavation and off-site disposal) is the preferred alternative, and this alternative removes the potential source of groundwater contamination, the risk of groundwater contamination at the site will be mitigated. As such, development and implementation of a groundwater monitoring plan is an unnecessary expense for the site.

5. **Comment:** **A summary of the cost analysis should be made in the report.**

   Response: The final EE/CA will include a cost summary in the body of the report.

6. **Comment:** **The Navy could use SADA (Spatial Analysis and Decision Assistance: http://www.tiem.utk.edu/~sada/) software to better delineate the probabilistically based extent of contamination in soils and groundwater at the site.**

   Response: SADA was not used to delineate the probabilistically based extent of contamination in soils and groundwater at Site 30; however, the Navy will keep it in mind for future use at other sites.

B. SPECIFIC COMMENTS

1. **Comment:** **<u>Executive Summary, p ES-1</u>:**

   - **The Navy needs to clarify the statement made: "The current level of inorganic chemical contamination at the site poses probable risk to plant, invertebrate, and bird and mammal receptors." Outline exactly what the Navy interprets as "probable." Has the Navy conducted a risk assessment for the site? If so what where the results?**
   - **Explain how the 268 mg/ kg lead concentration in soils was determined as the risk threshold for the site's ecological receptors.**
   - **Clarify how the Navy is planning to use Landfill Site 1 found on their property as an appropriate disposal site for wastes excavated at Site 30. Waterboard does not recommend such practice.**

- **Outline the results of the site's groundwater impacts due to the leaching of contaminants from the buried wastes.**

Response: The statement about the current level of contamination by inorganic chemicals at the sites was based on the conclusions of the RI and RI addendum. Please refer to the RI and RI addendum for details.

The 268 mg/kg level of lead is the maximum concentration outside the risk footprint. The Site 1 landfill will not be used as a disposal site; text that references use of the Site 1 landfill for disposal will be deleted from the EE/CA. Impacts to groundwater are discussed in the RI and RI addendum for the site. A summary of the results is also provided in Table 1 of the EE/CA.

2. Comment: **Section 2.1.2, Site Background and Historic Operations, p 5: Provide the approximate volume of the disposed artificial fill at the site using the obtained borehole data.**

Response: The sediment and composition of the artificial fill, the relative thickness, and the distribution of each unit are described in Section 3.3.2 of the RI report (Tetra Tech 2002). As noted in Section 2.1.2, the dates of disposal and the source of the debris at the site are unknown. Appendix B of the EE/CA provides the total removal action costs for each alternative at the site and includes volumes to be removed.

3. Comment: **Section 2.1.4, Geology, p 7: Indicate site specific hydraulic conductivity and porosity.**

Response: As stated in the RI addendum (Tetra Tech 2004), the hydraulic conductivities in the shallow subsurface are estimated to be low based on the soils encountered in the monitoring well borings. However, if Alternative 3 is selected, the Navy will calculate site-specific hydraulic conductivity and porosity in the removal action design phase.

4. Comment: **Section 2.1.5, Hydrogeology, p 7:**

- **Provide the surface and groundwater beneficial uses per 1995 San Francisco Bay Basin Plan.**
- **State if the groundwater is potable per SWRCB Resolution 88-63.**
- **Provide an analysis of the influence of tidal fluxes to groundwater levels in monitoring wells. Furthermore, a map indicating salinity concentrations in soils/ sediments and water samples taken within the tidal influence zone should be provided.**
- **State what the groundwater velocity is at the site.**
- **Provide the groundwater flow direction at the site.**

Response: The Bay Basin Plan (California Regional Water Quality Control Board 1995) specifies that beneficial uses for groundwater in the general area where Site 30 is located are municipal and domestic water supply, industrial process supply, agricultural water supply, and freshwater replenishment to surface waters. Water Board Resolution 88-63 defines groundwater that meets the following conditions as nonpotable: (1) the concentration of total dissolved solids (TDS) exceeds 3,000 milligrams per liter (mg/L) (or an electrical conductivity of 5,000 microSiemens per centimeter [µS/cm]); or (2) the source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day (gpd). These data are provided on the monitoring well sampling sheets in the RI addendum (Tetra Tech 2004). Electrical conductivity of the samples was recorded on monitoring well sampling sheets (Tetra Tech 2004, Appendix D), which show that the electrical conductivity of well GW001 ranged from 4,598 to 4,996 µS/cm during sampling. The electrical conductivities in wells GW002 and GW003 were 5,800 and 10,700 µS/cm. Specific yields of the monitoring wells have not been measured because of the difficulty of conducting pumping tests in wells screened in Bay Mud. However, the drawdown recorded on the well sampling sheets allows for an estimation of a steady-state yield. Well GW001 reached a steady-state yield (where the pumping rate was equal to the recharge rate, as evidenced by constant water level) at a pumping rate of 0.364 liters per minute (L/min), or 138 gpd. The steady-state yields in wells GW002 and GW003 were 223 gpd and 99 gpd. Considering the high TDS concentrations (as evidenced by the high electrical conductivity) and the low yield of the aquifer (as evidenced by the low steady-state yields), groundwater in the Taylor Boulevard Bridge area is not considered potable.

A tidal influence study has not been conducted and is not planned for this site. A tidal influence study would be conducted only if a detailed evaluation of the potential rate of contaminant transport were required based on the detection of significant levels of contamination in the groundwater. Soil, sediment, and water samples were not analyzed for salinity. However, data on salinity for water samples are available in the form of conductivity data, which were collected during the well purging process. These data are provided on the monitoring well sampling sheets in the RI addendum (Tetra Tech 2004).

Seepage velocity, the average rate at which groundwater moves between two points, was calculated using the following equation (Fetter 1980):

$$\text{seepage velocity} = Ki/\eta_e$$

where:

K= hydraulic conductivity (centimeter per second [cm/sec])
i = hydraulic gradient (dimensionless)
η_e = effective porosity of the material (dimensionless)

Site-specific information on hydrogeologic characteristics is not available for the Taylor Boulevard wells. Assuming a typical hydraulic conductivity value for silty clay of 10^{-6} cm/sec (Fetter 1980), measured hydraulic gradients of 1.03×10^{-3}

(November 2003) and 5.6 x 10^{-3} (February 2004), and effective porosity of 0.06 (approximated from specific yield values of 0.08 for silt and 0.03 for clay [Todd 1980]), estimated groundwater flow velocities may range from about 0.5 cm/year to 3 cm/year.

As shown in Figure 7 in the RI addendum (Tetra Tech 2004), directions of groundwater flow are variable. Based on two water level surveys, groundwater flowed to the south in November 2003 and to the west-southwest in February 2004.

5. Comment: **Section 2.3.2, Extent of Site Sediment and Groundwater Contamination, p 11:**

- **Specify the groundwater screening criteria used in the report.**
- **Report the groundwater contaminants concentrations detected at the site. Compare these values to ambient water quality criteria.**
- **The Navy needs to acknowledge that one of the sediment sample (site 4) collected by the Water Board Staff in December 2001 had elevated Arsenic concentration (120 ppm).**
- **Briefly indicate the groundwater monitoring wells characteristics (depth, screening interval, diameter and yield).**
- **The Navy needs to provide an appendix describing the soil boring lithologies for the monitoring well points installed in this project.**

Response: The information requested is provided in the RI and RI addendum (Tetra Tech 2002, 2004).

6. Comment: **Section 2.3.3, Contamination Fate and Transport, p 12:**

- **This section should be refined with a graphically based site conceptual model, outlining the various possible migration pathways of contaminants laden leachate. Please explain if contaminated groundwater could migrate into open wetland waters.**
- **Provide the matrix for "contaminant concentrations beneath the debris."**

Response: The final EE/CA will be revised to include a figure (Figure 5) outlining the site conceptual model. Please see the response to Water Board General Comment 4. The sentence referenced in the comment will be revised to read, "concentrations in sediment beneath debris."

7. Comment: **Section 3.4.2.1, Chemical-Specific ARARs, p 18:**

- **The Navy needs to provide the land use scenario, the depth of soil, the potability characteristics of groundwater and the surface water input to appropriately screen contaminants at the site.**
- **In the event the Navy is planning to screen using an industrial/ commercial land use scenario, the Navy needs to memorialize a covenant to prevent any future residential development until a risk assessment is conducted.**
- **Waterboard staff recommends the use of ESLs (Environmental Screening Levels http://www.waterboards.ca.gov/rwqcb2/esl.htm) to appropriately screen for remedial purposes at the site.**

Response: NWS SBD Concord is an active base, and no future changes to the current land use scenario are anticipated at this time. Groundwater at the site is not considered potable (see response to Water Board General Comment 4).

The groundwater data were screened using the most conservative of the marine or freshwater chronic values from the California Toxics Rule (EPA 2000) and the EPA National Recommended Water Quality Criteria (EPA 2002a). The Bay Basin Plan water quality objectives for waters upstream of San Pablo Bay were used for mercury (RWQCB 1995). The Navy will continue to use these values for future monitoring, and does not plan to use the ESLs.

8. Comment: **Figure 5, Estimated Risk to Assessment Endpoint Receptors Taylor Boulevard Bridge Disposal Site: Lead isoconcentrations contours with site-specific risk footprint of 268 mg/kg and the Cal-Mod lead soil PRG of 150 mg/kg should be drawn on an updated map.**

Response: The risk footprint was developed during the RI, which was conducted from 1996 through 2000. The 1999 PRG for lead was used to develop the risk footprint. Table 4 and Figure 8 clearly demonstrate that removing the lead-contaminated debris will mitigate risk to potential receptors at the site.

9. Comment: **Table 5, Summary of Remedial Action Alternatives, p 2 of 2: The table of remedial action alternatives is incomplete and unclear. Please tabulate each remedial action independently and provide the proposed components.**

Response: Table 5 in the EE/CA will be revised to provide additional detail, as requested.

RESPONSES TO DFG-OSPR COMMENTS

GENERAL COMMENTS

1. Comment: **The EE/CA should be revised to address all potential ARAR requirements relative to the salt marsh harvest mouse (SMHM) and black rail. These animals are identified as fully protected species under Fish and Game Code Sections 4700 (mammals) and 3511 (birds), in addition to their status under state and federal endangered species laws. The DFG cannot authorize the "take" of fully protected species. "Take" is defined in the California Fish and Game Code as "hunt, pursue, catch, capture, or kill", or attempt to "hunt, pursue, catch, capture, or kill." Since disturbance or direct impacts to SMHM or black rail may occur as a result of work conducted under the preferred alternative, "take" must be avoided. The DFG-OSPR can discuss options for take avoidance with the Navy. Methods to avoid take of either species may include, but not be limited to 1) avoiding construction during the black rail breeding season, 2) hand clearing of pickleweed or other wetland plants prior to any construction activity, 3) construction and placement of hay bales or other noise barriers, and/or 4) exclusion of SMHM and/or black rails by the placement of temporary barriers or other methods. Trapping and relocation of either the SMHM or black rails would involve "take", and therefore these methods are not allowable alternatives. Also, the U.S. Fish and Wildlife Service should be consulted on any potential impacts to the federally endangered SMHM.**

Response: As explained in the response to EPA Specific Comment 6, the Navy will survey for the presence or absence of SMHM to evaluate whether coordination with USFWS is necessary. If SMHM are present on the site, the Navy will coordinate with USFWS for concurrence on the plan for the removal that is protective of the SMHM. If the SMHM is found at the site, an independent biological monitor will be present at all times to monitor the removal action to ensure that the SMHM is protected. The draft EE/CA currently factors in the cost of the biological monitor. The final EE/CA will clarify that the biological monitor would be an "independent" function of the removal action.

2. Comment: **Insufficient analysis has been completed and presented to justify the exclusion of the chemicals of ecological concern (COECs), other than lead, from removal action objective (RAO) development and from the analyte list for confirmation samples.**

Response: Elevated concentrations of chemicals other than lead are collocated with elevated concentrations of lead. Thus, removal of sediments with high concentrations of lead will remove elevated concentrations of other contaminants as well. Additionally, removal of the debris will remove the source of contamination. The RI (Tetra Tech 2002) and RI addendum (Tetra Tech 2004) data confirm this conclusion. A table summarizing the conclusion will be incorporated into the EE/CA.

3. Comment: **The risk footprint for birds and mammals was based on the exceedance of high toxicity reference value (TRV)-based hazard quotients (HQs) for SMHM and of the 95% upper confidence limit (UCL) of the site data for birds. When the 95% UCL values were used with the high TRV, the resulting HQs exceed one for black-necked stilts exposed to copper (2.2), lead (5.7), mercury (1.5), selenium (2.6), and zinc (1.9). Furthermore, the use of a high TRV, which represents a mid-range adverse effect, is insufficiently protective for species of concern. As a result of these elevated criteria, the resulting risk footprint does not include several locations with elevated metals concentrations that may have significant impact on birds and mammals. The DFG-OSPR does not concur with the use of these criteria for estimating risk and determining areas requiring remediation or with the risk footprint that resulted from their use. The current risk footprint should be revised to include the following sample locations: 309SB106, SS213, SS214, SB102, SB100, 309SB05, SB200, SB106, and SS204.**

Response: The RI includes a comprehensive risk evaluation based on a weight of evidence approach with multiple lines of evidence. Risk was not based solely on contaminant concentrations in sediment. The methodology for conducting the risk assessment was agreed on before and during development of the RI. The risk assessment methodology and RI were extensively reviewed by the regulatory agencies at the time, and the RI was approved based on the review. Locations where risk was not indicated based on the results of the RI (Tetra Tech 2002) will not be revisited.

As a result of ongoing agency review and refinement of the EE/CA, the following locations are now included in the proposed excavation footprint: SB102, SB100, 309SB05, and SS204. Therefore, all locations where some risk was indicated in the RI are within the area to be excavated. SB200 is not a sample location at Site 30.

SPECIFIC COMMENTS

1. Comment: **Pages ES-1 and ES-2. Polynuclear aromatic hydrocarbons (PAHs) are not included in the list of primary chemicals of concern (COCs), although a removal action objective (RAO) is listed for this chemical group. Conversely, arsenic, cadmium, copper, chromium, iron, mercury, selenium, and zinc are listed as COCs, but RAOs are not included for them. Please resolve these discrepancies.**

Response: The RAO will be based on lead only. The RAO for PAHs will be deleted in the final EE/CA. Please see the response to DFG-OSPR General Comment 2 about RAOs for arsenic, cadmium, copper, chromium, iron, mercury, selenium, and zinc.

2. Comment: **Page ES-3. DFG-OSPR concurs with the selection of Alternative 3 as the recommended alternative.**

Response: Comment noted.

3. Comment: **Page 3. Please include a more detailed description of the site and conceptual site model including location relative to nearby roads, railroad tracks, and adjacent marshes, potential transport of site contaminants into Seal Creek Marsh, and any potential tidal influence.**

Response: A figure that depicts the conceptual site model will be incorporated into the final EE/CA. A more detailed description of the site and the conceptual site model can be found in the RI (Tetra Tech 2002) and the RI addendum (Tetra Tech 2004).

4. Comment: **Page 3. Reference is made to the potential for development of Site 30, however slight. Maintaining the wildlife resources of the tidal areas of Concord is consistent with Section 6.4.7 of the 2002 Integrated Natural Resources Management Plan and Environmental Assessment for NWSSBD Concord.**

Response: The only reference made to any potential development of Site 30 was in qualifying the use of residential PRGs for the human health risk assessment. The EE/CA states that it is highly unlikely that the site would ever be developed for residential housing since the site consists of a marsh. However, the final EE/CA will include a reference to the Integrated Natural Resources Management Plan to further justify why the site is an unlikely location for residential housing development.

5. Comment: **Figure 7. Please overlay the sample locations on this figure so the risk footprint area can be compared to the sample location information presented on Figures 4 and 5.**

Response: An overlay of the excavation area and the risk footprint (Figures 5 and 8) will be included in the EE/CA.

6. **Comment:** **<u>Page 8</u>. Please revise the descriptions "shoreline" and "wetland and upland transitional habitat" to more accurately reflect the habitat type with regards to salinity (freshwater, brackish, or marine), elevation relative to tidal height (*e.g.* mean lower low water), and vegetation type (mudflat, low marsh, high marsh, or terrestrial). In addition, please separately describe wetland/marsh and upland/terrestrial habitats.**

Response: The habitat descriptions in the EE/CA are consistent with the descriptions presented in the RI (Tetra Tech 2002). Site 30 is subdivided into two habitats, both considered brackish. (The final EE/CA will be revised to clarify this point.) The first is an open-water aquatic habitat, and the second represents a wetland and upland transitional habitat. Three dominant vegetation types are present in the wetland and upland transitional habitat; however, a true upland plant community is not found at the site. Section 2.1.6.3 describes the vegetation types in the wetland and upland transitional habitats.

7. **Comment:** **<u>Pages 8 and 9</u>. Please include more detailed descriptions of wildlife associated with the different habitat types.**

Response: Wildlife associated with the various habitats will be described in the final EE/CA.

8. **Comment:** **<u>Page 8</u>. Please note that pickleweed is an important food source for bird and mammal species as well, including several special status species.**

Response: The text will be revised accordingly.

9. **Comment:** **<u>Page 9</u>. Black rails may be present in the marsh areas of Site 30. This state-threatened species often utilizes cattail clumps, which occur at the site (Page 8, Section 2.1.6.1).**

Response: Please see response to EPA Specific Comment 5.

10. **Comment:** **<u>Page 12</u>. Please describe the source of the groundwater and surface water screening criteria used for comparison, and include the chemical specific values on a table.**

Response: The information requested is provided in the RI and RI addendum (Tetra Tech 2002, 2004).

11. **Comment:** **<u>Page 12</u>. Soil contamination is described as not extending beyond 1 foot depth, but debris occurs to 4 foot depth. Please clarify the relationship between soil/sediment contamination, the depth to which debris is present, and the depth below ground surface (bgs).**

Response: Section 4.4 of the final EE/CA states that "Chemical concentrations above the human health cleanup goals (Table 3) occurred mainly from the ground surface to 0.5 feet bgs (Tetra Tech 2002). Soils and sediments in locations where deeper samples were collected (between 1.0 and 1.5 feet bgs) did not exhibit an unacceptable risk to human health." Section 2.3.1 of the final EE/CA will be revised to state, "The vertical extent of debris ranges from 4 feet bgs at the end of the peninsula to 1 foot bgs in the central portion of the site." All debris is to be removed during the removal action. All soil above the RAO criteria is to be removed as well.

12. **Comment:** **Page 12. Please relate the water level fluctuations with the size of the areas that receive tidal flushing over different tidal heights and time periods (*e.g.* areas at mean higher high water elevation versus mean lower low elevation).**

Response: The text will be revised to include a reference to Figure 3, which shows the areas that undergo tidal flushing over various tidal heights and periods. The hatched area on Figure 3 shows the approximate seasonal variation in water level.

13. **Comment:** **Page 13. Please clarify the following statements as they appear to be inconsistent: "lead-contaminated debris is the primary contaminant of concern and source of risk to potential human receptors. Therefore, the site remediation criteria are based primarily on ecological risk."**

Response: The two sentences referenced will be deleted in the final EE/CA.

14. **Comment:** **Page 15. Please revise the statement that "a BAF [bioaccumulation factor] greater than 1 indicates the potential for contaminant uptake." A BAF greater than 1 means that the chemical has accumulated in the tissue of the organism to a concentration higher than in the associated media. A plant or animal can uptake/consume contaminated media and be exposed to that chemical, but not accumulate it due to the relative rate of absorption, metabolism, and excretion.**

Response: The final EE/CA will be revised as requested.

15. **Comment:** **Page 15. Please include a flow-diagram that illustrates the means by which risk to benthic invertebrates was evaluated. The text description by itself is hard to follow.**

Response: A flow diagram that illustrated the methodology used to evaluate the risk to benthic invertebrates was provided in the draft final RI (Tetra Tech 2002).

16. **Comment:** **Page 15. Please include a description of how risk to birds and mammals was evaluated.**

Response: The method used to evaluate risk to birds and mammals will be described in the final EE/CA

17. Comment: **<u>Page 15</u>. If arsenic is a chemical of ecological concern (COEC) for any receptors, please note them.**

Response: The final EE/CA will be revised to include the information requested.

18. Comment: **<u>Page 17</u>. It would be helpful to include a table with the cleanup levels for all chemicals presented and to describe the selection process in the text.**

Response: Cleanup levels were established for lead only. Please see response to DFG-OSPR General Comment 2.

19. Comment: **<u>Page 19</u>. The DFG-OSPR provided the Navy with ARARs applicable to Site 30 and other tidal area sites at NWSSBD Concord on September 15, 2004. These ARARs included Fish and Game Code Section 4700, which addresses fully protected mammals.**

Response: The Navy identified Fish and Game Code Section 4700 as a location-specific applicable or relevant and appropriate requirement (ARAR) and will comply with its substantive requirements.

20. Comment: **<u>Page 24</u>. Please include RAOs for the other COECs including arsenic, cadmium, copper, mercury, selenium, and zinc. A map overlay showing the locations which exceed the RAOs for the COECs individually could be then used to justify a risk footprint that accounts for risk from all COECs.**

Response: Please see response to DFG-OSPR General Comment 2

21. Comment: **<u>Page 26</u>. The section on visual determination of debris extent is unclear. Please clarify how this will be accomplished, including whether soil sieving will be used to identify the "rust flakes and fragments," and to what size scale and/or relative amount debris will be removed. The smaller and more degraded material has the greatest potential for mobilization, chemical leaching, and transport, but is the least likely to be identified by visual examination. Please explain how this dichotomy will be addressed.**

Response: Confirmation samples collected from the bottom and sidewalls of the excavation will be visually screened for the presence of debris. If debris is present, the excavation will be enlarged until all confirmation samples submitted for laboratory analysis are free of all visual signs of debris. Visual screening is expected to readily and accurately identify the extent of debris.

22. Comment: **<u>Page 26</u>. As mentioned above (General Comment #1), trapping and relocation of the SMHM is not allowable given their status as fully protected mammals for which take is prohibited.**

Response: Please see the response to EPA General Comment 6.

23. Comment: **<u>Page 27</u>. The basic restoration elements, as presented, are acceptable; however, a separate restoration plan should be prepared and submitted to the DFG-OSPR for review. Review by the U.S. Fish and Wildlife Service may also be applicable.**

Response: The restoration plan will be included in the removal action plan.

24. Comment: **<u>Page 27</u>. Please analyze the confirmation samples for all COECs rather than lead only.**

Response: Please see the response to DFG-OSPR General Comment 2.

25. Comment: **<u>Page 28</u>. Please include the criteria for inorganic and organic chemical concentrations in the backfill material.**

Response: The criteria for concentrations of inorganic and organic chemicals in the backfill material will be provided as part of the removal action plan, which will be prepared after the action memorandum has been accepted.

26. Comment: **<u>Page 28</u>. Please include monitoring of the habitat restoration area as a component of Alternatives 2 and 3.**

Response: The final EE/CA will be revised to include monitoring the habitat restoration area as a component of Alternatives 3 and 4.

27. Comment: **<u>Page 31</u>. The description of the soil disposal cell does not include any type of lining along the bottom and sidewalls to prevent chemical leaching.**

Response: The final EE/CA will be revised to include preliminary design and construction details for the disposal cell.

28. Comment: **<u>Page 37</u>. Please include long-term monitoring for the soil disposal cell to ensure the cap integrity is maintained, and that chemicals are not leaching into groundwater.**

Response: The final EE/CA will be revised to incorporate groundwater monitoring for 3 years, with a 5-year review to evaluate whether groundwater monitoring is still required.

29. Comment: **<u>Figure 6</u>. Please make the following changes to the risk footprint to address elevated concentrations of metals (organic chemicals were not analyzed in these samples). In addition, further sampling may be necessary along the entire western edge, north of sample locations SS200, SS201, and 309SB106, south of SB104 and SB105, and SS214, and east of SS213 and SS214 to define extent of sediment contamination.**

309SB05	SS200
309SB106	SS204
SB102	SS209
SB106	SS213
SS214	

Response: Please see response to DFG-OSPR General Comment 3. Locations where risk was not indicated based on the results of the RI (Tetra Tech 2002) will not be included in the risk footprint.

30. Comment: **Table 3. The values on this table are inconsistent with the data presented in the Draft Remedial Investigation Addendum document for the following:**

a. The maximum concentration within the risk footprint

i. for zinc (listed as 5410 mg/kg, but the concentration at location SB201 was 11,000 mg/kg).

b. The maximum concentrations outside the risk footprint

i. for cadmium (listed as 1.6 mg/kg, but the concentration at location SS204 was 3.4 mg/kg).

ii. for copper (listed as 111 mg/kg, but the concentration was 199 mg/kg at location SS204).

iii. for mercury (listed as 0.26 mg/kg, but the concentration was 1.5 mg/kg at location SS204).

iv. for selenium (listed as 0.32 mg/kg, but the concentrations at locations SS204, SB102, SB200, 309SB05, SB100, SB106, and SS209 ranged from 1.3 to 7.6 mg/kg).

v. for zinc (listed as 596 mg/kg, but the concentration at location SS204 was 609 mg/kg).

Response: Table 3 will be revised accordingly. It should, however, be noted that locations SS204, SB102 and SB100 all fall within the revised excavation footprint (Figure 6, Final EE/CA). SB200 was not a sample location at Site 30.

31. Comment: **<u>Table 3</u>. Please include for comparison the back-calculated sediment values with HQ equal to 1 with the high TRV for black-necked stilt and with the low TRV for the SMHM.**

Response: The Navy does not propose to include back-calculated sediment values with HQs equal to 1 in the EE/CA because they were not calculated as part of the RI (Tetra Tech 2002).

32. Comment: **Table 4. Please include selenium data in this table as it was identified as a COEC.**

Response: Data for selenium will be included in Table 4 in the final EE/CA.

33. Comment: **Table 4. Location SS204 is identified as being included in the risk footprint on this table, but is outside the footprint on Figure 5. Please revise Figure 5 appropriately.**

Response: Location SS204 is outside the risk footprint but within the excavation area. Figure 5 will be revised appropriately.

34. Comment: **Table 5. Hand removal of vegetation, if required, could require a longer time than the week allotted.**

Response: Please see the response to EPA Specific Comment 6.

35. Comment: **Table 5. Monitoring over a longer period than 3 years may be required with on-site disposal to ensure cap integrity and no chemical migration.**

Response: Comment noted.

36. Comment: **Appendix A, Table A-2. Please provide the information used to determine that black rails are not present at the site, and to justify that the ARAR for fully protected bird species is not applicable.**

Response: Please see the response to EPA Specific Comment 6.

RESPONSES TO COMMENTS FROM MARY LOU WILLIAMS (RAB COMMUNITY CO-CHAIR)

1. Comment: **The landscaping plans appear to cover most everything at the Site. The seed content, fertilizer, hydroseeding etc. I just wonder where the replacement soil will come from, on or off site. I have seen other soil in very large trucks being hauled away...not at CNWS...with little or no dust controls and I would hope this issue is carefully monitored to protect the neighboring communities.**

Response: The details of restoration, such as the source of replacement soil, will be addressed in the removal action plan, which will follow the action memorandum. The project plans and specifications will include contractual requirements for the control of dust, both on site and off site. Soil trucked off site will be covered.

RESPONSES TO CRC COMMENTS

GENERAL COMMENTS

1. Comment: It is CRC's the Navy has wasted limited government and community resources by releasing a document of such poor quality. CRC believes that the Navy should prepare and circulate a new EE/CA for public review that addresses the concerns below.

Response: The Navy regrets that CRC has found the report to be of poor quality. The EE/CA will be revised in response to comments issued by the regulatory agencies, RAB, and CRC. The final EE/CA will be made available for public review when completed (according to the requirements at Title 40 Code of Regulations [CFR] Part 300.420(n)(4)(ii) and 40 CFR 300.820). The process of agency and public review of draft and draft final versions of documents is intended to produce final documents that comply with the laws and address stakeholder concerns to the extent possible.

2. Comment: The EE/CA does not include, as required, a comparison of a "few relevant and viable removal alternatives."[1]

Response: The final EE/CA compares four different removal alternatives. These are:

- Alternative 1: No action
- Alternative 2: Monitoring
- Alternative 3: Excavation, stabilization, on-site disposal, land use controls (LUCs), and habitat restoration
- Alternative 4: Excavation, off-site disposal, and habitat restoration.

3. Comment: The EE/CA should have been prepared as a joint EE/CA-Remedial Action Plan (RAP) to meet state requirements for removal actions.[2]

Response: The state requirement for an EE/CA to be prepared as a joint EE/CA-removal action plan (RAP) applies only to sites that are not listed on the National Priorities List (NPL). The Taylor Boulevard Bridge Site is listed on the NPL.

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[1] **U.S. EPA, 1993, "Conducting Non-Time-Critical Removal Actions Under CERCLA," Office of Emergency and Remedial Response, EPA/5409/F-94/009, December.**

[2] **Health and Safety Code Section 25356.1**

Appropriateness of Removal Action

4. Comment: **In citing which factors[3] demonstrate the appropriateness of a removal action at Site 30 the EE/CA did not correctly quote the regulation. The correct citation is:**

> **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants. [40 CFR 300.415(b)(2)(i)] (Omitted portion shown in Underline)**

CRC believes the omitted portion of the cited regulation justifies the removal action. Animals and the food-chain are actually exposed to Site 30 and human exposure is largely prevented by institutional controls (guarded military installation). The EE/CA should be revised to accurately cite the regulation.

Response: The final EE/CA will be revised to appropriately cite the regulation.

5. Comment: **The following factor, not identified in the EE/CA, demonstrates the appropriateness of a removal action at Site 30:**

> **Actual or potential contamination of drinking water supplies or sensitive ecosystems. [40 CFR 300.415(b)(2)(i)]**

Site 30 should be identified as a sensitive ecosystem for purposes of this removal action. After all, the EE/CA states that permanently eliminating the 0.5 acres of pickleweed habitat at Site 30 would "…drastically reduce the amount of habitat available to the SMHM [salt marsh harvest mouse], a federally endangered species."[4]

Response: Section 4.0 of the final EE/CA will be revised to state the following: "This cap will raise the elevation of the area, thereby reducing the amount of habitat available to the SMHM. The ARARs currently discussed in the draft EE/CA are adequate to justify the removal action.

6. Comment: **The EE/CA also sites this factor as demonstrating the appropriateness of a removal action:**

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[3] **40 CFR 300.315(b)(2) The following factors shall be considered in determining the appropriateness of a removal action pursuant to this section: (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; (ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems; (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release; (iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate; (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; (vi) Threat of fire or explosion; (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and (viii) Other situations or factors that may pose threats to public health or welfare of the United States or the environment**

[4] **EE/CA, page 25.**

> **High levels of hazardous substances or pollutants or contaminants in soil largely at or near the surface that may migrate. [(40 CFR 300.415(b)(2)(iv)]**

The EE/CA implies that human health may be adversely affected if the removal action is not conducted. Since the conditions at Site 30 have apparently existed for over 60 years, the Final EE/CA should provide further information on the migration pathways of concern.

Response: Detailed information on the migration pathways of concern is provided in the RI (Tetra Tech 2002) and RI addendum (2004).

Cleanup Goals

7. Comment: **The EE/CA refers to two different cleanup levels for lead, so it is not clear which cleanup goal confirmation samples will be compared with to determine if additional soil excavation is required.**

One lead cleanup level is the Region IX Preliminary Remediation Goal of 400 mg/kg for residential land-use. The EE/CA indicates that achieving this cleanup level would result in no land-use restrictions being placed on the site. California however has established a standard for lead in soil of 130 mg/kg for residential land-use. Unless the limits of the proposed excavation are extended to encompass soils containing lead above 130 mg/kg, future land-use restrictions would still be required.

In addition to the 400 mg/kg PRG, the EE/CA sites a lead cleanup value of 268 mg/kg. This is the highest detection of lead outside the limits of the proposed excavation.

Response: The final EE/CA will be revised to clearly state that the highest detection of lead outside the limits of the proposed excavation (268 mg/kg) will be used as the cleanup value for lead.

8. Comment: **The limited investigation of groundwater contamination at Site 30 shows significant arsenic contamination. Despite this the EE/CA indicates:**

> **This action is intended to serve as the final remedial action for residential human health and ecological risks associated with the known contamination within Site 30.[5]**

Groundwater contamination at Site 30 should be adequately investigated to determine if future remedial action is necessary.

Response: The RI addendum (2004) addresses potential contamination in groundwater. The highest concentration of arsenic (150 micrograms per liter [µg/L]) was detected in the sample from monitoring well GW01, which is upgradient of the debris field. The exact source of arsenic in monitoring well GW01 is unknown;

[5] **EE/CA, page 17**

however, it is likely related to the debris. The hydraulic gradient for the site is nearly flat which, along with the generally low hydraulic conductivities in the subsurface, suggests that the rate of groundwater flow across the site is very low.

9. Comment: A PAH concentration of 0.62 mg/kg benzo(a)pyrene equivalents is a removal action objective. The Sampling and Analysis Plan for the Removal Action should ensure that PAH soil analysis has low enough detection limits in order to evaluate the confirmation samples. EPA Method 8310 provides lower detection limits, than the method used during previous RI sampling.

Response: The RAO will be based on lead only. The RAO for PAHs will be deleted in the final EE/CA. Please see the response to DFG-OSPR General Comment 1.

10. Comment: The Sampling and Analysis Plan should describe monitoring activities that ensure that pickleweed vegetation is established at the restored site. The monitoring should include "triggers" so that actions will be taken if vegetation restoration is not fully successful.

Response: The purpose of the EE/CA is to analyze various removal alternatives and to select the preferred alternative. Detailed construction details on the preferred alternative, such as monitoring plans for restored vegetation, will be provided in follow-on removal action design documents.

On-Site Disposal Comments

11. Comment: The EE/CA's Requirements (ARARs) for on-site waste disposal states in it entirety:

> **"There are no ARARs for the on-site disposal other than the RCRA land disposal restrictions described in Section 4.2.1 and in the chemical specific discussion" (Appendix A, Section 4.2.3)**

The EE/CA fails to identify a number of waste disposal requirements including Corrective Action Management Units (CAMU) regulations that govern on-site disposal. Placing wastes in a CAMU is not considered land disposal. Therefore, RCRA land disposal restrictions would not be apply.

The placement of wastes in a CAMU is at the discretion of the state. regulations require treatment of RCRA wastes. Treatment must reduce the TCLP result by 90 percent or remove 90 percent of the total metal from the waste.[6]

Please correct the ARAR discussion in the EE/CA so the restrictions for on-site waste disposal are not ignored.

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[6] **Title 22 California Code of Regulations, 66264.552, Corrective Action Management Units (CAMU) for RCRA Hazardous Waste**

RCRA Waste Characterization

Excavated soil is considered a waste that requires characterization to determine restrictions on land disposal. For example, excavated soil would be prohibited from land disposal if it contains "free liquids."

Excavated soil would be characterized as a RCRA Hazardous waste, that must be treated prior to land disposal, if results from the Toxicity Characteristic Leaching Potential (TCLP) test contain greater than 5 mg/L leachable lead. Soil would be characterized as a non-RCRA (California only) Hazardous Waste if it contains total lead concentrations above 1,000 mg/kg and a TCLP test result less than 5 mg/L. California regulations also require that wastes containing greater than 350 ppm total lead to be placed in a hazardous waste landfill.[7]

RCRA waste characterization guidance uses the 95 percent upper confidence limit (UCL) value to determine waste characteristics. For the soils to be excavated the 95 percent UCL for total lead in soil is 3,470 mg/kg.[8]

Response: The EE/CA will be revised to explain the ARARs for Alternative 2, which involves excavation, solidification and stabilization, and on-site disposal. The draft EE/CA stated that the only potential ARARs for Alternative 2 involved the RCRA land disposal restrictions (LDRs). The final EE/CA will be revised to more specifically explain this alternative. LDRs are potential ARARs if waste is to be disposed of on land. However, it is unlikely that LDRs, or any other hazardous waste disposal requirements, will be triggered under Alternative 2 because the solidification and stabilization process will render the waste nonhazardous. Therefore, the only likely potential ARARs are the requirements at California Code of Regulations Title 27 for disposing of solid waste, and the Navy intends to add the relevant sections as ARARs. The California Code of Regulations Title 27 engineered alternative cover for covering the solidified and stabilized material and the Title 27 post-closure groundwater monitoring requirements will be added as potential ARARs. The Navy believes that, although the requirements in CCR Title 27 will be added to the EE/CA, EPA does not always consider it necessary to cover soil that has undergone the solidification and stabilization process. EPA records of decision have selected remedies that use soil that has been treated with this process as backfill without the need for any cover. (See for example Macalloy Corp., EPA./ROD/R04-02/084) August 21, 2002.)

The comment states that the EE/CA fails to discuss the CAMU regulations. A CAMU is required only if waste is managed outside the area of contamination (AOC). Under Alternative 2, the soil will be treated within the AOC; therefore, the CAMU regulations are not triggered. Movement of hazardous waste within

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[7] California Health and Safety Code "25157.8 (a) Except as provided in subdivision (c), on and after January 1, 1999, no person shall dispose waste that contains total lead in excess of 350 parts per million, copper in excess of 2500 parts per million, or nickel in excess of 2000 part per million, *to land at other than a class I hazardous waste disposal facility…"* (*emphasis ours*). This ARAR was not identified in the EE/CA.

[8] EE/CA, page 14; 95 percent UCL for samples collected in Area A, the center of the site were lead concentrations in soil exceeded 400 mg/kg.

the AOC is not a new act of treatment, storage, or disposal under the AOC policy.

The last part of this comment relates to RCRA waste characterization. As explained above, the excavated material will be treated within the AOC; therefore, the RCRA land disposal requirements do not apply to movement of the material within the AOC. As far as the ultimate location of the stabilized material, the RCRA land disposal restrictions and other RCRA disposal requirements will not likely be triggered because the material will be nonhazardous. The Navy will determine whether any material that is excavated and not treated would be characterized as RCRA hazardous waste pursuant to the requirements identified as ARARs at Title 22 California Code of Regulations.

12. Comment: The soil to be excavated has not been characterized because according to the EE/CA:

> **"The current analytical results are not adequate to identify the disposal facility or the land disposal treatment requirements." (EE/CA, p. 38)**

It was an unacceptable oversight that the recently completed Site 30 Remedial Investigation did not collect samples to determine land disposal restrictions on excavated waste. According to EPA's [9], the need for this data should have been RI/FS identified during the scoping phase:

> **"The identification of potential technologies at this stage will help ensure that data needed to evaluate them (e.g., BTU value of waste to evaluate thermal destruction capabilities) can be collected as early as possible."**

The lack of TCLP data makes it impossible to evaluate land disposal alternatives for soil excavated from Site 30. This data inadequacy should be addressed at sites throughout CNWS were remedial alternatives may potentially include excavation and disposal.

Response: The Navy does not agree that lack TCLP data is an unacceptable oversight. The soil will be characterized for disposal as part of the removal action.

13. Comment: Though the need to determine the waste classification is noted in both Alternatives No. 2 and Alternative No. 3 the detailed cost estimate includes no such costs for Alternative No 2, and only a single waste classification sample for Alternative No. 3. Similarly, Alternative No. 2 does not include any sample costs for determining if waste stabilization meets the treatment objectives.

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[9] **1988, US EPA, "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Interim Final," Office of Emergency and Remedial Response, October.**

Response: The final EE/CA will include costs for characterizing the stabilized, excavated material. Alternative 3 becomes Alternative 4 in the final EE/CA, as Alternative 1 is broken down into two separate components. The final EE/CA will include sufficient characterization tests to identify the most appropriate landfill to receive the excavated material.

Alternative No. 2 – Stabilization, On-Site Disposal

14. Comment: **It is CRC's comparison of viable alternatives was made during the EE/CA. Alternative No. 2 proposes digging a pit near Site 30 to the depth of groundwater and using the pit to dispose of stabilized soil and debris from the removal action. According to the EE/CA:**

> **"On-site disposal will be designed such that no new exposure pathways to disposed material are created."**

Among the most important design criteria for landfills is location. A pit dug near Site 30 is an inappropriate location for a number of reasons, including a separation of 50 feet does not exist between the bottom of the landfilled wastes and groundwater.

Response: The Navy understands that the 50-foot separation applies only to CAMUs; hence, this requirement does not apply since the soil disposal cell is being constructed within the AOC. The final EE/CA discusses the conceptual construction details for the soil disposal cell. Please see the response to CRC General Comment 10 for more information on AOCs.

15. Comment: **The EE/CA incorrectly states that:**

> **"Once stabilized the waste should no longer be hazardous."**

The stabilized wastes will still require management as RCRA wastes and the proposed on-site disposal cell will be subject to CAMU regulations requiring a composite liner and a leachate control system.

Response: Please see response to CRC Comment 11.

16. Comment: **The cost details indicate 5,262 cubic yards of soil will be required to backfill Site 30 after the excavation of 2,500 to 4,400 cubic yards of contaminated soil and debris. These soil volumes contradict the Conceptual Grading Plan (Figure 8) and Site Reconstruction Limits (Figure 9), that indicate that more soil is to be excavated from Site 30, then will be used as back-fill.**

Response: The backfill amount represents the assumption of a 30 percent shrinkage factor when soil is returned into the ground.

17. Comment: **No costs or equipment are proposed to screen soils to remove debris prior to the stabilization step. Is it the intention to place a railroad tie in a mixer with concrete?**

Response: The final EE/CA will include costs to screen the excavated material before it undergoes the stabilization process.

18. Comment: **CNWS is an RCRA-permitted facility and therefore temporary units for treatment of corrective action wastes, and stockpiling of corrective action wastes are subject to RCRA requirements. No costs or equipment are proposed to comply with RCRA facility requirements.**

Response: Please see the response to CRC General Comment 11

Alternative No. 3 – Stabilization, Off-Site Disposal

19. Comment: **Similar to Alternative No. 2, the analysis of Alternative No. 3 proposed too much backfill, and lacked costs and equipment to comply with RCRA Facility requirements.**

Response: Please see the responses to CRC General Comments 11 and 16.

20. Comment: **No costs or equipment are proposed to screen out debris or to de-water wastes prior to transportation off-site. The EE/CA has proposed using the Tidal Area Landfill to dispose of soil excavated from Site 30 citing a savings of $652,000 in the cost of off-site disposal. This cost represents transportation, stabilization and disposal costs. Since stabilization is likely to be required the cost savings should be reduced by $480,000, which is Alternative No. 2's estimated.**

Response: Please see the response to CRC General Comment 17 on waste screening. The final EE/CA will be revised to discuss the dewatering procedure for Alternatives 3 and 4. The Site 1 landfill will not be used as a disposal site; text referencing the use of the Site 1 landfill for disposal will be deleted from the final EE/CA

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TABLE 4: DEVELOPMENT OF RISK FOOTPRINT

Final, Engineering Evaluation and Cost Analysis, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Sample Location	Sample Date	Sample Depth (ft.)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	LEAD	MANGANESE	MERCURY	MOLYBDENUM	NICKEL	SELENIUM	SILVER	THALLIUM	VANADIUM	ZINC	Total PCBs	Total PAHs	TPH Diesel	TPH Gasoline	TPH Motor Oil
Tidal Area Ambient[a]			27,300	2.2	27	530	0.18	1.9	82.1	36	81	95	1500	0.32	6.6	120	not available	not available	2.2	96	264	not available	not available	not available	not available	not available
SF Bay Ambient[b]			not available	not available	15.6	not available	not available	0.33	112	not available	68.1	43.2	not available	0.43	not available	112	0.64	0.58	not available	not available	158	0.0148	3.39	not available	not available	not available
ER-L[c]			not available	not available	8.2	not available	not available	1.2	81	not available	34	46.7	not available	0.15	not available	20.9	not available	1	not available	not available	150	0.0227	4.02	not available	not available	not available
ER-M[c]			not available	not available	70	not available	not available	9.6	370	not available	270	218	not available	0.71	not available	51.6	not available	3.7	not available	not available	410	0.18	44.79	not available	not available	not available
309SSCS	2/1/2000	0.00 - 0.50	12900	3.02 J	32.6	414	0.28	2.38 J	50.8 J	11.7	130 J	547	998	0.21	5.22 J	59.5 J	1.6	0.422	0.14 J	60.2	1980 J	NA	NA	NA	NA	NA
309SSNS	2/1/2000	0.00 - 0.50	14300	0.91 J	14.3	146	0.32	0.46 J	38.1 J	6.59	49 J	87.2	1520	0.22	3.09 J	40 J	2	0.26	0.14 J	57.4	89 J	NA	NA	NA	NA	NA
309SSSS	2/1/2000	0.00 - 0.50	13800	0.98 J	9.8	120	0.31	0.93 J	35.1 J	7.35	72.5 J	189	632	0.29	4.15 J	39 J	2	0.333	0.13 J	55.7	226 J	NA	NA	NA	NA	NA
309SB05	2/2/2000	0.00 - 0.50	10500	1.12 J	10.4	268	0.48	1.55 J	32.5 J	14.8	49 J	162	1940	0.26	0.47 J	43.2 J	0.6 UJ	0.563	0.17 J	35.7	284 J	NA	NA	NA	NA	NA
309SB106	2/2/2000	0.00 - 0.50	12400	0.37 J	7.7	175	0.4	0.31 J	29.4 J	8.88	21.7 J	268	422	0.05 UJ	0.31 J	36.2 J	0.3 UJ	0.131	0.11 J	40.1	71.2 J	NA	NA	NA	NA	NA
309CSPWSS	2/2/2000	0.00 - 0.50	7430	6.72 J	57	646	0.21	7.8 J	73.4 J	15.8	311 J	2300	1660	0.18	5.13 J	59.7 J	1.2	1.08	0.14 J	40.5 J	2270 J	NA	NA	NA	NA	NA
SB001	2/6/1996	0.00 - 0.50	6970	5.6 J	58.4	4660	0.03 U	0.56 U	136	23.4	608 J	2560	1200	0.42	9.7	58.6	0.65 U	5.4	5.3 U	14.2	4090	NA	3.9 U	33.0 J	33.0 J	33.0 J
SB001	2/6/1996	2.00 - 2.50	19000	0.59 UJ	7.6	87.3	0.6	0.07 U	46.3	9.1	33.6 J	22.6	328	0.09 U	0.24 U	41.3	0.84 U	0.36 U	0.7 U	49.7	85.3	NA	5.2 U	18.0 U	18.0 U	18.0 U
SB002	2/6/1996	0.00 - 0.50	6300	0.8 J	5.8	223	0.16	0.05 U	16.5	12.7	25.7 J	34.7	1480	0.06 U	0.54 U	27.8	0.59 U	0.13 U	1.4 U	26.3	89.5	NA	3.6 U	13.0 U	13.0 U	13.0 U
SB002	2/6/1996	2.00 - 2.50	9880	0.41 UJ	4.6	117	0.31	0.05 U	21.2	6.6	13.7 J	8	156	0.06 U	0.15 U	24.8	0.59 U	0.13 U	0.48 U	28.6	34.3	NA	3.6 U	13.0 U	13.0 U	13.0 U
SB003	2/6/1996	0.00 - 0.50	4570	84.2 J	142	765	0.03 UJ	5.5	125	22	6670 J	7680	987	26.4	18.1 J	262	0.6 UJ	2.3	2.5 UJ	31.3	3960	NA	3.5	550.0	550.0	550.0
SB003	2/6/1996	2.00 - 2.50	11600	0.4 UJ	3.1	278	0.33	0.05 U	23	9.5	12.7 J	6.5	414	0.06 U	0.15 U	32.9	0.57 U	0.12 U	0.47 U	30.1	32	NA	3.5 U	12.0 U	12.0 U	12.0 U
SB004	3/18/1997	0.00 - 0.50	4750	18.1 J	61.2 J	927	0.16 U	2.8 J	119	37.5	378 J	5030 J	1420	2.1	6	96.3	9 J	1.9 U	0.32 U	16.9	2100 J	NA	2.0	140.0 U	140.0 U	140.0 U
SB004	3/18/1997	1.00 - 1.50	7480	0.37 UR	2 J	387	0.55 J	0.07 UJ	17.4	5.8 J	12.3 UJ	6.4 J	312	0.08 U	0.74 U	27.3	0.84 UJ	1.8 U	0.28 U	22	18.8 J	NA	3.7 U	13.0 U	13.0 U	13.0 U
SB005	3/18/1997	0.00 - 0.50	4200	0.81 UJ	8.6 J	123	0.25 J	0.07 UJ	13.6	9.5 J	28.4 J	201 J	428	0.06 U	0.67 U	20.8	0.95 J	1.6 U	0.28 U	27.3	126 J	NA	2.5	120.0	120.0	120.0
SB005	3/18/1997	1.00 - 1.50	7840	0.37 UR	2.9 J	244	0.43 J	0.07 UJ	18.3	8.5 J	12.1 UJ	9.7 J	368	0.07 U	0.73 U	30.2	0.83 UJ	1.7 U	0.28 U	30.7	23.5 J	NA	3.5 U	12.0 U	12.0 U	12.0 U
SB006	3/18/1997	0.00 - 0.50	5400	0.71 UJ	6.2 J	115	0.35 J	0.06 UJ	15.6	8.3 J	20.1 J	66.9 J	415	0.09 U	0.64 U	23.2	0.74 J	1.5 U	0.26 U	30.2	42.1 J	NA	2.4	11.0 U	11.0 U	11.0 U
SB006	3/18/1997	1.00 - 1.50	12000	0.35 UJ	3.5 J	363	0.57 J	0.06 UJ	26.4	10.8	12.9 UJ	8.6 J	519	0.05 U	0.64 U	47.5	0.87 J	1.5 U	0.28 U	39.8	27.6 J	NA	3.3 U	12.0 U	12.0 U	12.0 U
SB007	3/18/1997	0.00 - 0.50	4040	0.95 UJ	6.1 J	124	0.3 J	0.06 UJ	20.5	20.5	30.5 J	184 J	367	0.19 U	0.65 U	72.2	0.96 J	1.5 U	0.24 U	27.8	120 J	NA	1.6	11.0 U	11.0 U	11.0 U
SB007	3/18/1997	1.00 - 1.50	9350	0.39 UJ	3 J	201	0.5 J	0.07 UJ	21.2	10.9 J	11.8 UJ	7.4 J	482	0.1 U	0.7 U	36.6	0.79 UJ	1.6 U	0.28 U	37.4	23 J	NA	3.3 U	12.0 U	12.0 U	12.0 U
SB008	3/18/1997	0.00 - 0.50	7860	1 UJ	10.2 J	236	0.47 J	0.07 UJ	30.4	9.8 J	39.1 J	129 J	425	0.09 U	0.84 J	49.8	0.76 UJ	1.6 U	0.26 U	35.2	98.9 J	NA	2.5	11.0 U	11.0 U	11.0 U
SB008	3/18/1997	1.00 - 1.50	11000	0.49 UJ	2.6 J	302	0.58 J	0.07 UJ	22.8	8.3 J	14.4 J	8.2 J	388	0.07 U	0.68 U	37.9	0.77 UJ	1.6 U	0.28 U	30.9	26 J	NA	3.4 U	12.0 U	12.0 U	12.0 U
SB009	3/18/1997	0.00 - 0.50	6360	6 J	37.8 J	391	0.22 J	3.3 J	43.1	19	327 J	1560 J	747	2.2	2.1	68.6	5 J	2.4 U	0.37 U	45.1	5410 J	NA	3.5	180.0 U	180.0 U	180.0 U
SB009	3/18/1997	1.00 - 1.50	6750	0.32 UR	4.9 J	149	0.41 J	0.06 UJ	16.6	10.1 J	13.9 J	7.8 J	156	0.08 U	0.64 U	24.7	0.72 UJ	1.5 U	0.3 U	39.6	21.5 J	NA	3.5 U	12.0 U	12.0 U	12.0 U
SB010	3/18/1997	0.00 - 0.50	4920	32.2 J	34 J	302	0.2 J	13.4 J	100	19.1	12500 J	1870 J	857	0.69	2.5	73.5	4 J	1.5 U	0.27 U	31.2	4960 J	NA	2.0	56.0 U	56.0 U	56.0 U
SB010	3/18/1997	1.00 - 1.50	8970	0.47 UJ	2.6 J	257	0.41 J	0.07 UJ	19.9	10.5 J	19 J	7.6 J	501	0.05 U	0.72 U	28.8	0.82 UJ	1.7 U	0.29 U	35.9	24 J	NA	3.6 U	13.0 U	13.0 U	13.0 U
SB011	3/18/1997	0.00 - 0.50	8090	0.66 UJ	14.7 J	210	0.33 J	0.08 UJ	29.7	10.2 J	50.2 J	318 J	544	0.11 U	0.75 U	40.3	1 J	1.8 U	0.29 U	34.6	154 J	NA	3.7 U	13.0 U	13.0 U	13.0 U
SB011	3/18/1997	1.00 - 1.50	9200	0.34 UR	2.4 J	90.2	0.45 J	0.07 UJ	20.3	7.5 J	12.4 U	6.1 J	364	0.08 U	0.68 U	28.3	0.77 UJ	1.6 U	0.29 U	25.4	19.5 J	NA	3.6 U	13.0 U	13.0 U	13.0 U
SB012	3/7/1997	0.00 - 0.50	5750	5 J	6.6 J	127	0.31 J	0.16 UJ	17.7	13.9	71.7 J	749 J	654	0.12 U	0.58 U	21.9	1.1 J	1.4 U	0.24 U	31.1	196 J	NA	2.3	11.0 U	11.0 U	11.0 U
SB012	3/18/1997	1.00 - 1.50	12900	0.37 UR	3.4 J	404	0.52 J	0.07 UJ	27.6	10.7 J	14.3 J	9.7 J	444	0.06 U	0.73 U	42.6	0.98 J	1.7 U	0.28 U	37	28.1 J	NA	3.5 U	12.0 U	12.0 U	12.0 U
SB013	10/13/1997	0.00 - 0.50	10700 J	2.5 J	19.7	680 J	0.02 U	0.1 UJ	45.4 J	11.1 UJ	1030 J	597 J	748 J	0.39	301	48.7 J	2.4	2.5	1.1 U	41.8	912 J	NA	NA	NA	NA	NA
SB014	10/13/1997	0.00 - 0.50	9350 J	6.4 J	61.4	1140 J	0.02 U	0.68 UJ	78 J	21.7	270 J	3280 J	1200 J	0.17 UJ	5	67.2 J	7.8	2.6	1.1 U	34.8	1660 J	NA	NA	NA	NA	NA
SB015	10/13/1997	0.00 - 0.50	7930 J	26.3 J	57.7	683 J	0.03 U	0.13 UJ	2990 J	14.4 J	726 J	1020 J	833 J	0.16 U	7.7	79.1 J	6.8	2.8 J	1.9 U	39.9	1540 J	NA	NA	NA	NA	NA
SB016	10/16/1997	0.00 - 0.25	4880 J	2.9 UJ	9.5 J	123 J	0.1 U	0.4 UJ	0.89 J	1.3 UJ	1.1 J	1.7 J	0.69 J	0.5 U	1.2 J	0.89 J	4 U	1.1 U	6 U	1.2 J	3.2 J	NA	NA	NA	NA	NA
SB017	10/13/1997	0.00 - 0.50	3 J	0.39 J	0.34	5.6 J	0.01 U	0.05 UJ	174 J	36.7	515 J	2030 J	1590 J	0.15 UJ	6.9	258 J	12	11.4 UJ	0.82 U	28.1	2060 J	NA	NA	NA	NA	NA
SB018	10/13/1997	0.00 - 0.50	3080 J	5.8 J	106	194 J	0.02 U	0.09 UJ	47.9 J	16.6	1670 J	1270 J	994 J	0.16 UJ	6.6	81.5 J	7.6	1.2 UJ	1.4 U	24.5	1130 J	NA	NA	NA	NA	NA
SB019	10/13/1997	0.00 - 0.50	3430 J	3.8 J	52.7	184 J	0.02 U	0.07 UJ	85 J	27.8	432 J	1640 J	1490 J	0.08 U	6	91.7 J	11.5	0.91 UJ	1.7 UJ	28.1	737 J	NA	NA	NA	NA	NA

TABLE 4: DEVELOPMENT OF RISK FOOTPRINT

Final, Engineering Evaluation and Cost Analysis, Naval Weapons Station Seal Beach Detachment Concord, Concord, California

Sample Location	Sample Date	Sample Depth (ft.)	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CHROMIUM	COBALT	COPPER	LEAD	MANGANESE	MERCURY	MOLYBDENUM	NICKEL	SELENIUM	SILVER	THALLIUM	VANADIUM	ZINC	Total PCBs	Total PAHs	TPH Diesel	TPH Gasoline	TPH Motor Oil
Tidal Area Ambient[a]			27,300	2.2	27	530	0.18	1.9	82.1	36	81	95	1500	0.32	6.6	120	not available	not available	2.2	96	264	not available	not available	not available	not available	not available
SF Bay Ambient[b]			not available	not available	15.6	not available	not available	0.33	112	not available	68.1	43.2	not available	0.43	not available	112	0.64	0.58	not available	not available	158	0.0148	3.39	not available	not available	not available
ER-L[c]			not available	not available	8.2	not available	not available	1.2	81	not available	34	46.7	not available	0.15	not available	20.9	not available	1	not available	not available	150	0.0227	4.02	not available	not available	not available
ER-M[c]			not available	not available	70	not available	not available	9.6	370	not available	270	218	not available	0.71	not available	51.6	not available	3.7	not available	not available	410	0.18	44.79	not available	not available	not available
SB020	10/13/1997	0.00 - 0.50	9650 J	2.7 J	22.9	336 J	0.02 U	0.06 UJ	74.6 J	12.2 UJ	1980 J	1180 J	591 J	0.64	2.9	126 J	4.2	0.9 UJ	0.91 U	39.2	1800 J	NA	NA	NA	NA	NA
SB100	2/11/1998	0.00 - 0.50	8450	5.6 UJ	6.2 J	111 J	0.16 U	0.48 U	27.6	7.8 J	54.9	97.2 J	1360	0.74 U	8 J	36.9 J	7.6 U	3.4 U	10.2 UJ	56.5 J	96	NA	NA	NA	NA	NA
SB101	2/11/1998	0.00 - 0.50	12600	1.9 UJ	8.9	56.8 J	0.17 UJ	0.16 U	30.9	4.8 J	39	67.9 J	330	0.28 U	2.6 J	35.8	2.5 U	1.1 U	3.4 UJ	43.1	65.7	NA	NA	NA	NA	NA
SB102	2/11/1998	0.00 - 0.50	11200	4.8 UJ	5.8 J	132 J	0.14 U	0.41 U	34.9	7.7 J	52.1	83.3 J	1900	0.75 U	3.7 J	37.4 J	6.9 J	2.9 U	8.7 UJ	53.3 J	87.9	NA	NA	NA	NA	NA
SB103	2/11/1998	0.00 - 0.50	8500	6.2 UJ	21.8	198 J	0.18 U	0.53 UJ	33.5	12.7 J	182	506 J	936	0.84 U	6.2 J	55.8 J	8.4 UJ	3.7 U	11.2 UJ	53.1 J	502	NA	NA	NA	NA	NA
SB104	2/11/1998	0.00 - 0.50	7630	3.8 UJ	3.9 U	114 J	0.11 U	0.33 U	23	6.5 J	50.5	68.2 J	1340	0.54 U	1.9 J	27.5 J	5.2 U	2.3 U	6.9 UJ	36.6 J	84.7	NA	NA	NA	NA	NA
SB105	2/11/1998	0.00 - 0.50	11900	0.92 UJ	5 UJ	205	0.026 U	0.079 U	14.8	12.8 J	37.1	24.9 J	327	0.12 U	0.4 U	23.2	1.2 U	0.55 U	2.1 J	62.2	74.3	NA	NA	NA	NA	NA
SB106	2/11/1998	0.00 - 0.50	17100	1.6 J	24.8	202	0.39 J	0.46 J	148	7.9 J	111	257 J	274	0.19 UJ	0.8 J	52.4	1.9 U	1.4 UJ	2.6 UJ	57.9	596	NA	NA	NA	NA	NA
SS200	6/8/1998	0.00 - 0.50	23300 J	1.4 R	18.8 J	133 J	0.49 J	0.94 J	53.3 J	8.7 J	91 J	163 J	471 J	0.24 U	2.2 J	68.8 J	1.7	0.35 U	3.4 J	80.5 J	358 J	NA	NA	NA	NA	NA
SS201	6/8/1998	0.00 - 0.50	9720 J	1.8 R	13.6 J	120 J	0.04 J	0.79 J	33.2 J	6.6 J	59.1 J	87.1 J	1410 J	0.37 U	4 J	38.6 J	2.4	0.46 J	3.5 J	48.5 J	94 J	NA	NA	NA	NA	NA
SS202	6/8/1998	0.00 - 0.50	10200 J	1.7 R	11.5 J	164 J	0.03 J	0.66 J	30.9 J	5.6 J	47 J	72.2 J	1570 J	0.31 U	2.3 J	33.4 J	1.7	0.45 J	2.6 J	46.1 J	107 J	NA	NA	NA	NA	NA
SS203	6/8/1998	0.00 - 0.50	12500 J	1.5 R	11.9 J	120 J	0.03 J	0.83 J	39.7 J	6.9 J	54.1 J	78.8 J	1060 J	0.26 U	4.1 J	41.4 J	1.4 J	0.37 U	1.9 J	62.9 J	205 J	NA	NA	NA	NA	NA
SS204	6/8/1998	0.00 - 0.50	13300 J	1.8 R	15.7 J	131 J	0.04 J	3.4 J	38.2 J	10.9 J	199 J	165 J	830 J	1.5	4.1 J	49.5 J	1.3 J	1.5 J	2.4 J	53.4 J	609 J	NA	NA	NA	NA	NA
SS205	6/8/1998	0.00 - 0.50	1890 J	2.1 J	26.8 J	67.4 J	0.02 J	2.4 J	15.2 J	5.6 J	166 J	378 J	311 J	0.17 U	3 J	25.9 J	0.69 UJ	0.62 J	2.5 J	20.3 J	4980 J	NA	NA	NA	NA	NA
SS206	6/8/1998	0.00 - 0.50	5410 J	1.2 J	7.7 J	215 J	0.02 UJ	1.6 J	28.9 J	9.6 J	565 J	486 J	321 J	0.05 U	0.67 J	229 J	0.2 U	6.7	1.6 J	16.8 J	983 J	NA	NA	NA	NA	NA
SS207	6/8/1998	0.00 - 0.50	5200 J	0.64 R	3.2 J	72.4 J	0.01 J	0.26 UJ	12.9 J	4.3 J	17.4 J	34.6 J	712 J	0.11 U	0.42 J	16.2 J	0.47 J	0.17 UJ	1.7 J	22.8 J	58.8 J	NA	NA	NA	NA	NA
SS208	6/8/1998	0.00 - 0.50	6440 J	0.34 R	3.9 J	90.2 J	0.16 UJ	0.27 UJ	12.4 J	6 J	12.2 J	50.2 J	240 J	0.05 U	0.1 J	15.5 J	0.2 U	0.09 U	0.96 J	24.5 J	61.6 J	NA	NA	NA	NA	NA
SS209	6/8/1998	0.00 - 0.50	6870 J	1.4 J	10.9 J	266 J	0.03 J	1.1 J	20.6 J	6.7 J	73 J	85 J	2480 J	0.2 U	4.5 J	31.2 J	2.4	0.58 J	3.5 J	37.2 J	175 J	NA	NA	NA	NA	NA
SS210	6/8/1998	0.00 - 0.50	8880 J	0.29 R	4.7 J	110 J	0.11 UJ	0.38 J	23.3 J	6.1 J	13.3 J	29.8 J	285 J	0.05 U	0.09 J	23.9 J	0.21 J	0.09 UJ	1.2 J	25.2 J	70.4 J	NA	NA	NA	NA	NA
SS211	6/8/1998	0.00 - 0.50	7750 J	0.29 R	3.1 J	125 J	0.17 UJ	0.25 UJ	16.4 J	5.4 J	9.2 J	44.5 J	233 J	0.04 U	0.09 J	20.4 J	0.18 U	0.1 UJ	0.94 J	19.6 J	46.5 J	NA	NA	NA	NA	NA
SS212	6/8/1998	0.00 - 0.50	7920 J	0.6 J	3.1 J	91.2 J	0.01 J	0.36 J	31.2 J	8.5 J	19.6 J	56.3 J	383 J	0.05 U	0.08 J	39 J	0.17 U	0.09 UJ	1.2 J	29.5 J	104 J	NA	NA	NA	NA	NA
SS213	6/8/1998	0.00 - 0.50	8520 J	0.28 R	7.4 J	118 J	0.14 UJ	0.69 J	24.1 J	6.1 J	57.1 J	110 J	251 J	0.25	0.08 J	48 J	0.17 U	0.15 UJ	0.81 J	21 J	337 J	NA	NA	NA	NA	NA
SS214	6/8/1998	0.00 - 0.50	7080 J	0.44 J	8.1 J	88.2 J	0.01 UJ	0.38 J	24 J	7.3 J	17.5 J	195 J	311 J	0.08 UJ	0.1 J	37.9 J	0.17 J	0.08 UJ	0.83 J	25.9 J	79 J	NA	NA	NA	NA	NA
SB201	11/24/2003	4.0 - 5.0	16000	92.0 J	33.0	2900	0.250 J	6.1 J	77.0	9.7	740	570 J	590	0.270	7.6	65.0 J	1.2	0.710 J	3.0 J	72.0	11000	0.155 U	2.7 U	12.0	3.4 U	47.0
SB202	11/24/2003	3.0 - 4.0	17000	NA	11	200	0.390 J	1.1 UJ	44.0	4.0 J	92.0	240 J	270	0.083	3.7 J	40.0 J	1.1 U	1.1 U	1.1 U	55.0	370	0.200 U	3.5 U	18.0	4.5 U	63.0
SB203	11/24/2003	3.75 - 4.75	18000	NA	8.7	120	0.460 J	0.790 J	46.0	3.9 J	140.000	180 J	380	0.360	3.3 J	40.0 J	1.0 J	1.3 U	1.3 U	63.0	290	0.263 U	4.6 U	23.0	5.7 U	110.0
SB204	11/24/2003	2.0 - 3.0	11000	NA	13.0	98	0.550	0.310 UJ	24.0	8.3	30.0	100 J	260	0.033 UJ	1.2 U	24.0 J	0.310 U	0.310 U	0.460 UJ	34.0	110	0.064 U	1.1 U	1.3 U	1.4 U	17.0
SB205	11/24/2003	2.0 - 3.0	13000	NA	2.9	140	0.530	0.330 UJ	23.0	9.3	13.0	8.0 J	440	0.029 UJ	1.3 U	35.0 J	0.330 U	0.330 U	0.330 U	26.0	26	0.057 U	1.0 U	1.2 U	1.2 U	6.1

Units shown in milligrams per kilogram

ER-L Effects-range low
ER-M Effects-range median
NA Not Analyzed
PAH Polynuclear aromatic hydrocarbons
PCB Polychlorinated biphenyls

U - Non-detected concentration
J - Estimated concentration

Sample location falls within the risk footprint
Sample location is outside the risk footprint but is included in the excavation footprint
No Shading Outside risk and excavation footprint

a Tetra Tech. 2002. "Draft Final Remedial Investigation for Taylor Boulevard Bridge Disposal Site, Tidal Area, NWS SB, Detachment Concord, Appendix E." January 31.
b RWQCB. 1998. "Ambient Concentrations of Toxic Chemicals in Sediments." April.
c Long, E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1995. "Incidence of Adverse Biological Effects within Ranges Of Chemical Concentrations

ATTACHMENT C
RESPONSES TO REGULATORY AGENCY AND PUBLIC COMMENTS ON THE DRAFT ACTION MEMORANDUM FOR TAYLOR BOULEVARD BRIDGE DISPOSAL SITE (SITE 30) NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA

RESPONSES TO REGULATORY AGENCY AND PUBLIC COMMENTS ON DRAFT ACTION MEMORANDUM TAYLOR BOULEVARD BRIDGE (SITE 30) NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD CONCORD, CALIFORNIA

This document presents the U.S. Department of the Navy's responses to comments from staff from the U.S. Environmental Protection Agency (EPA); the California Department of Toxic Substances Control (DTSC); the California Department of Fish and Game (DFG); and the California Regional Water Quality Control Board (Water Board) on the draft action memorandum, Taylor Boulevard Bridge (Site 30), Naval Weapons Station Seal Beach Detachment Concord, Concord, California, dated June 30, 2005. Responses are also included to comments received on July 3, 2005 from Restoration Advisory Board (RAB) member, Mr. Igor Skaredoff. The comments addressed below were received from EPA (Enclosures A and B of their letter) on September 2, 2005; DTSC on August 22, 2005; DFG on August 22, 2005; and the Water Board on August 5, 2005.

RESPONSES TO EPA COMMENTS (ENCLOSURE A: SEPTEMBER 2, 2005)

GENERAL COMMENTS:

1. Comment: The Navy is proposing a risk-based, non-time critical removal action (NTCRA) at Site 30. The removal action foot print does not include sample locations SS200, 309SB106, or SB106, despite attempts by U.S. EPA to document and communicate our concern with these areas. U.S. EPA has and continues to encourage the Navy to make the relatively minor adjustment in the excavation boundary to address these areas of residual risks, in particular, given our mutual goal of no further action for the site after the removal action is completed (Section V.A.2. Contribution to Remedial Performance, Page 14). The Navy proposes site restoration but no post-remediation monitoring to validate that the ecological risks were effectively addressed by the removal action. U.S. EPA has several comments about this approach that would support a conceptual site model that extends the remediation footprint north to capture the above-mentioned sampling locations:

A. The Navy's primary objective in completing the NTCRA is to reduce the human health and ecological risks associated with exposure to hazardous substances (Section 1. Purpose, Page 1). There is substantial uncertainty in the ecological risk assessment that the Navy used to establish the footprint (A summary of those uncertainties are detailed in Enclosure B). Further, the risk footprint was established in the Draft Final Remedial Investigation (RI) without a transparent process (RI Section 9.2.2, Page 9-2). It is unclear whether the no observed adverse effect level (NOAEL)

toxicity reference value (TRV) was used to establish the risk footprint for wildlife receptors, and it is also unclear which screening levels were used to establish the risk footprint for benthic invertebrates. Given the uncertainty in both the risk assessment and the footprint selection, the risk-based footprint should be expanded to the north to reduce the probability of concluding there is no residual risk when residual risk is actually present.

B. The remediation footprint should be extended to the north to capture the above-mentioned sampling locations because the Navy proposes no further action and no post-remediation monitoring. Given the uncertainty discussed above, and the Navy's desire for no further action, the remediation footprint should be established protectively. In the event that the Navy would conduct post-remediation monitoring, the footprint could be retained as presented in the action memorandum; however, this approach is not cost effective and therefore not recommended. Without the monitoring to validate that the remediation addressed the ecological risks, the Navy should expand the footprint.

Response: To address EPA's concerns regarding locations SS200, 309SB106, and SB106 and to meet the EPA requirements as stated above for no further action, and no post-remediation monitoring, the excavation footprint will be extended to include these sample points. Figure 5 in the action memorandum will be revised to illustrate this change. The risk footprint, however, will remain unchanged. The excavation footprint proposed in the draft Action Memo was based on the risk footprint established in the draft final remedial investigation (RI) report (Tetra Tech 2002).

2. Comment: In support of our conceptual model issues with the Navy's plan, U.S. EPA has specific recommendations for including certain sampling points within the excavation foot print. These are:

A. A soil sample from 309SB106 contained 268 mg/kg lead. The Navy is proposing the removal action with an action level of 268 mg/kg for lead in soil. The footprint should be extended to capture this sample based on the action level the Navy has presented.

B. The Navy should extend the footprint to include SB106. Zinc was detected at a concentration in excess of the ER-M at this sampling location indicating potential risk to benthic invertebrates. Lead was also detected at 257 mg/kg (a concentration approaching the Navy-established action level) at this location. Further, because SB106 is located between the known source and 309SB106, the conceptual site model would suggest that concentrations in sample SB106 are related to the source.

C. The Navy should extend the footprint to include SS200 because zinc was detected in a soil sample at this location at a concentration (358 mg/kg) approaching the ER-M (410 mg/kg) and this concentration is roughly three times the concentrations of zinc found in other locations outside the remediation footprint. Further, lead, nickel, and copper are also elevated at SS200 relative to other locations outside the footprint (e.g., SS207, SS201, SS202, 309SNS).

Response: Please see the response to EPA General Comment 1

3. Comment: There are currently no cleanup goals for any constituents other than lead. It is unclear how the Navy will interpret the results of the confirmation samples for constituents other than lead. Further it is unclear that the Navy has established detection limits for the confirmation sampling that will allow comparison with the cleanup criteria that will be established.

Response: The chemicals of concern (COCs) identified in the draft final RI include arsenic, cadmium, chromium, copper, lead, mercury, selenium, zinc, and polynuclear aromatic hydrocarbons. Cleanup values for chemicals other than lead are to be the maximum detected concentrations outside the risk footprint. As discussed in Section V.A.1 of the action memorandum, because COCs are collocated with lead, the initial screen to confirm the efficacy of the excavation will be based on a comparison of the 95 percent upper confidence limit on the arithmetic mean (UCL 95) for the confirmation samples versus the cleanup value for lead (268 milligrams per kilogram [mg/kg]). Excavation will continue until this criterion is met. Once met, confirmation samples will be analyzed for the remaining COCs. For each COC a UCL 95 will be calculated and compared with the cleanup value for that constituent. The cleanup value for each COC has been set equal to the maximum concentration previously detected for that COC at a location outside the risk footprint. If the cleanup criteria for all COCs are not met, then the Navy will initiate further discussions with the various agencies involved. A process flowchart illustrating the decision rules for confirmation sampling and the proposed cleanup values for all COCs is included in the final action memorandum as well as a description of the confirmation sampling program. This process follows EPA guidance for the attainment of cleanup goals (EPA 1989). A more detailed discussion will be presented in the sampling and analysis plan (SAP) that will be developed for the removal action, likely as part of the removal action design.

Detection limits will be set to be less that the Tidal Area ambient levels to be conservative, and will be discussed in more detail in the SAP for the removal action.

4. **Comment:** **In response to U.S. EPA January 26, 2005, and May 5, 2005, comments, submitted in response to the Navy's November 2004, and March 2005, Draft and Final Engineering Evaluation and Cost Analysis (EE/CA), respectively, the Navy's Response to U.S. EPA Comments on the Final EE/CA included in Attachment B (General Comment number 1) indicates that it will collect and analyze pre-excavation sediment samples for polychlorinated biphenyls (PCBs) at the perimeter of the excavation area. While the Navy adds that it will document the sampling locations for regulatory review and concurrence, which has been done (with U.S. EPA suggesting modifications, agreed to by the Navy), the response does not indicate that the results of the pre-excavation sampling will be shared with the regulators prior to implementing the removal action. Please indicate that the pre-excavation sampling results will be provided to the U.S. EPA and the Navy will seek concurrence from the U.S. EPA on its evaluation of the data prior to implementing the removal action.**

Response: The results of the pre-excavation PCB sampling were distributed to the regulatory agencies on September 21, 2005. The PCB sampling results and the Navy's forwarding letter are also provided in Attachment D of the final action memorandum.

SPECIFIC COMMENTS:

1. **Comment:** **<u>Section I, Purpose, page 1, second paragraph</u>: U.S. EPA recommends that the end of the first sentence be changed to, ". ..by excavating and removing contaminated soils and sediment." U.S. EPA does not concur with the reference to "solid waste", as extremely limited historical information has been provided with regards to the source, nature, and volume of CERCLA hazardous substances.**

Response: The paragraph will be revised to read "by excavating and removing contaminated soils, sediment, and buried debris" in the final action memorandum.

2. **Comment:** **<u>Section II.A.1., Removal Site Evaluation, page 2, second paragraph</u>: Text states that "[t]he dates of disposal and the source of the [hazardous substances] are unknown. In the Navy's August 3, 2005, presentation outline to the Concord Restoration Advisory Board, it indicates that the site is, "Historic non-Navy municipal landfill". Based on personal communications with area residents, the Taylor Boulevard Bridge Disposal Area appears to be the landfill for the former town of Port Chicago and was probably operated as a burn-ash dump, common until the 1970's (where municipal and other waste materials were routinely burned to reduce mass). Based upon personal communications with Integrated Waste Management Board**

staff experienced with burn-ash dumps, the detected contaminants are generally consistent with this type of historical operation. At a minimum, the final action memorandum should reflect current Navy understanding of the site as a municipal disposal (dump) site.

One site characterization and health and safety issue that relates to the site as a historical municipal landfill is a need to screen for potential radiological materials. The Navy is strongly urged to assess if some radiological site screening has already occurred in the past, or if not, to inform U.S. EPA as soon as possible, so that we can assist the Navy in quickly developing a plan for this assessment, before any other personnel visit this site.

Response: The current site description is based on the Navy records for the site. Based on the EPA's conversation with the Integrated Waste Management Board (IWMB) and area residents, the Navy will accept the EPA's description of the site. A radiological screen will be conducted prior to the removal action, most likely during the removal action design.

3. **Comment:** **<u>II.B.1., Previous Actions, page 7</u>: Text in paragraph one, ends with a discussion of the 2004, Remedial Investigation (RI) Addendum. Please include a statement, to reflect that in the 2003-2004 time frame, U.S. EPA began recommending to the Navy that this site be addressed as a removal action. One documented reference to this recommendation is found in U.S. EPA's letter dated May 20, 2004, commenting on the Navy's April 2004 Draft RI Addendum. The Navy could also indicate that cleaning up the site as a removal action is consistent with U.S. EPA Superfund Accelerated Cleanup Model (SACM) approach to achieve prompt risk reduction, U.S. EPA Presumptive Remedy guidance for landfill sites, and is responsive to public interest in expediting site cleanups at Concord Naval Weapons Station.**

Response: The paragraph in the final action memorandum will be revised to read, "Comments received from the EPA on the RI addendum recommended that Site 30 should be considered for a non-time critical removal action (Tetra Tech 2004a). This is consistent with the EPA Superfund Accelerated Cleanup Model approach to achieve prompt risk reduction (EPA 1988) and is responsive to public interest in expediting site cleanups at Concord Naval Weapons Station".

4. **Comment:** **<u>II.C.1., State and Local Actions to Date</u>: As indicated above, while U.S. EPA has had some preliminary conversations with IWMB staff experienced with historical dump sites, the Navy should coordinate with representatives of both the IWMB and Contra Costa Environmental Health in order to assess all State and local records that may exist for this site.**

Response: During the preparation of the final action memorandum, the Navy contacted the IWMB to inquire about the records that may exist for the site. A representative with the Contra Costa Environmental Health department (Agnes Vinluan, Phone 925-646-5225 ext 209) indicated the only information IWMB had pertaining to Concord Site 30 was received from the Navy and EPA. Representatives of the Integrated Waste Management Board have been contacted (Frank Davis 1-916-341-6352; Sabra Ambrose 1-916-341-6352) to obtain more information. The IWMB web site indicates that Site 30 was closed in 1950 and that it contains the following waste types: ash, inert materials, metals, and mixed municipal waste.

5. **Comment:** **<u>V.A.1., Description of Proposed Action</u>: Consistent with U.S. EPA Guidance for Conducting Non-Time Critical Removal Actions Under CERCLA (EPA540-R-057) (August 1993) (Section 1.7, Action Memo), please attach a copy of the March 25, 2005, Final Engineering Evaluation/Cost Analysis (EE/CA) Executive Summary to the final action memorandum.**

Response: A copy of the March 25, 2005 Final Engineering Evaluation/Cost Analysis (EE/CA) Executive Summary will be provided in Attachment B of the final action memorandum.

6. **Comment:** **<u>V.A.1</u>: Consistent with "Superfund Removal Procedures action memorandum Guidance (EPA540/P-90/004)(December 1990), please state in this section that the extent of contamination and completeness of the removal action will be verified and properly documented and refer to a Sampling Quality Assurance/Quality Control Plan for Site 30. While the Navy's response to U.S. EPA May 5, 2005, Specific Comment number 5 regarding the Navy's March 2005, Final EE/CA, contained in Attachment B indicates that it will provide a revised figure illustrating sidewall and bottom confirmation samples in a removal action design document, please clarify that the Navy will provide a Sampling QA/QC plan with this information. In addition, this section should discuss the need for post-removal site controls, which could include Navy activities to ensure successful revegetation of site.**

Response: Section V.A.I will be revised to include the following: "The extent of contamination and completeness of the removal action will be verified by confirmation sampling (see Task 5)." The confirmation sampling program will be fully detailed in the SAP, which will be a part of the removal design plan for the project. The SAP will include the sampling Quality Assurance Project Plan (or QA/QC plan).

As noted in EPA's comment 1, the goal of the removal action is to reach a "no further action" determination for the site; thus, no post-removal controls will be necessary. Tasks associated with revegetation will be conducted as part of the removal action construction project. Any subsequent efforts related to the preservation of habitat and protection of endangered species would be conducted under the Integrated Natural Resources Management Plan (INRMP) (Navy 2002) developed for the Naval Weapons Station Seal Beach Detachment Concord, California.

7. Comment: **<u>V.A.5., Applicable or Relevant and Appropriate Requirements (ARARs)</u>: This section does not include a discussion of "To Be Considered" (TBC) criteria. Since the human health risk assessment relies on a comparison of detected soil concentrations to Preliminary Remediation Goals (PRGs), and PRGs and TBC criteria, please provide a discussion regarding TBCs and PRGs in this section.**

Response: This section will be amended to include a discussion regarding TBCs.

RESPONSES TO DTSC COMMENTS

GENERAL COMMENTS

1. Comment: **The draft action memorandum proposes a remedial action cleanup level for lead of 268 mg/kg. Lead being the primary contaminant of concern (COC). Confirmation samples for other COCs will be taken during the soil removal phase. However, during the post removal confirmation phase there are no plans for sampling COCs other then lead. DTSC finds the lack of confirmation samples for other COCs to be inconstant. We recommend that the Navy include other COCs in the post remediation confirmation sampling.**

Response: Please see the response to EPA General Comment 3

2. Comment: **To achieve the Navy's goal of no further action, DTSC recommends that post reconstruction monitoring schedule be developed to insure that ecological receptors continue to thrive.**

Response: Please see the response to EPA Specific Comment 6.

3. Comment: **The draft action memorandum estimates that 70 percent of the soil removed will be sent to a class 1 landfill. Increased sampling per batch may be able to reduce the amount of soil designated for a class 1 landfill. The Navy may want to consider a cost benefit analysis to determine if costs can be reduced.**

As the risk to ecological receptors is the primary concern for Site 30, the Department of Fish and Game has provided extensive comments for the Navy's review and incorporation into the Daft Final action memorandum.

Response: The frequency of waste characterization of analysis will be addressed as part of the removal action design, as the Navy agrees that disposal costs might be reduced by balancing the benefits of analyses vs. costs of disposal. Responses to DFG comments are provided below.

RESPONSES TO DFG COMMENTS

GENERAL COMMENTS

1. Comment: For the NTCRA to be considered a complete cleanup for Site 30, a post-remediation ecological risk assessment (ERA) would be needed to document the risk associated with the residual contamination.

Response: A post remediation ecological risk assessment is not anticipated to be necessary if the cleanup goals are attained. The risk footprint and the cleanup goals were established to be protective of human health and the environment. A confirmation sampling program is planned to evaluate the success of the cleanup according to the cleanup goals. Please see the responses to EPA General Comments 1 and 3.

2. Comment: Specific protocol for field surveys should be enumerated or referenced in the draft final action memorandum. This is applicable to both the state and federally endangered salt marsh harvest mouse (SMHM) and California Clapper Rail, and the state threatened Black Rail. Potentially suitable habitat exists for these species in project area, and presence of the California Clapper Rail at nearby Site 11 was recorded in February 2005. Development of survey protocol for the SMHM and California Clapper Rail should be coordinated with the U.S. Fish and Wildlife Service (USFWS). A site visit to the project area involving the DFG, USFWS, and the Navy may be very useful in helping define specific survey protocol, especially if completed well before issuance of a revised draft action memorandum. Two federally endangered plant species, soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*) and California seablite (*Sueda californica*), are also mentioned in the March 2002 Concord Integrated Natural Resources Management Plan (INRMP) as being in the Concord tidal areas and any occurrences of these or other special status species should also be recorded. Soft bird's beak is also listed as rare under the state Endangered Species Act.

Response: The Navy has and will continue to coordinate with DFG and USFWS, as appropriate. The Navy has identified federal and state applicable or relevant and appropriate requirements (ARARs) related to threatened and endangered (T&E). Included are the Endangered Species Act of 1973 as well as state requirements for protecting T&E species in the form of a list of DFG regulations (see Section 3.3.2 of the Final EE/CA for Site 30), or the tables in the draft action memorandum for Site 30. The current survey plans for Site 30 are as follows: (1) a salt marsh harvest mouse survey (SMHM) was conducted during the week of October 17, 2005, and (2) a clapper rail and California black rail survey will be conducted in January 2006. The results of the recently completed SMHM survey will be shared with DFG and USFWS once the report has been prepared. Per discussions

between the DFG and Navy, the Navy agrees to conducting a site visit and is agreeable to re-surveying, as needed in another time of year, closer to the time of the action (the removal action field work is currently scheduled to begin in late winter/spring 2007). The black rail survey will be conducted with tape playbacks. Per U.S. Fish and Wildlife Service (USFWS) protocol, no tape playback will be used for the clapper rail. The Navy will be proposing dates for a site visit.

As for plant species**,** surveys conducted under the INRMP indicate that the presence of soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*) was confirmed only at middle point marsh which is in the North East section of the Tidal area. Site 30 is located adjacent to seal creek marsh which is in the south west corner of the tidal area. California Seablite (*Sueda californica*) was indicated as a possible plant species at Detachment Concord, but its presence has not been confirmed. Based on the INRMP surveys, California seablite or soft bird's beak do not occur at Site 30. Further, they have never been observed during field investigations conducted at Site 30.

3. Comment: The scope of future biological surveys relative to activities described in the action memorandum should include a map and text description of all habitat types within the project footprint or potentially affected by project activities. Records of wildlife species observed during field investigations other than just special status species should be also be included in survey reports. Recent survey information for Site 30 or nearby Concord Tidal areas may be useful. This information will help facilitate the development of any habitat avoidance and mitigation measures applicable to pending Site 30 remediation. It also will be useful in helping to fulfill the compliance strategies listed on page 6-26 and elsewhere in the INRMP.

Response: Habitat types and wildlife species served at the site were presented in the RI report (Tetra Tech 2002) developed for the site. Records of wildlife species observed during field investigations other than just special status species are included as a component of the planned removal action at Site 30. It is also the Navy's understanding that coordination and planned surveys as discussed in response to DFG General Comment 2 will fulfill the compliance strategies listed in the INRMP.

SPECIFIC COMMENTS

1. Comment: <u>Page 11 (Section IA1)</u>. Text should be revised here to reflect that the project may warrant avoidance of take measures for species besides just the SMHM, including the Black Rail. "Take" is defined in the California Fish and Game Code as "hunt, pursue, catch, capture, or

kill." The fully protected status of the Black Rail and related regulatory issues were discussed in our January 25 memorandum.

Response: Paragraph 3 of Task 1 under Section V.A.1. in the final action memorandum well be revised as follows: "As appropriate, because of the potential presence of other federal- or state-protected species at the site, the Navy will coordinate with the U.S. Fish and Wildlife Service and the California Department of Fish and Game (CDFG) regarding methods for avoiding or alleviating the short- and long-term impacts on the SMHM as well as other potentially affected plant or animal species caused by this action**."**

2. **Comment:** **Page 11 (Section 1A1). Text should state "As necessary, the Navy will coordinate with the U.S. Fish and Wildlife Service and the California Department of Fish and Game …" Coordination with both agencies is essential since the SMHM is both state and federally listed.**

Response: The Navy acknowledges and apologizes for the oversight. Please see the response to DFG General Comment 2

3. **Comment:** **Page 11 (Section 1A1). All access road alignments should be mapped and otherwise described. Figure 2 appears to be at an appropriate scale to show each potential road alignment in the forthcoming revised draft action memorandum. Information regarding the expected length of time that the access road and other mobilization facilities will be in place will also help in enabling a determination of project impacts and any necessary avoidance or mitigation measures. Construction and maintenance of required access roads may result in temporary or long-term habitat losses for the SMHM, Black Rails, and other wildlife.**

Response: Figure 7 in the final EE/CA (Tetra Tech 2005a) provides a conceptual model for a proposed access road to the site. It is anticipated that the construction of the haul road would have a minimal effect on the surrounding habitat, however the Navy will coordinate with USFWS and DFG regarding any potential habitat impacts. As noted in the final EE/CA, construction of the haul road could take up to a week; however negotiations with the railroads for the necessary permits for a railroad crossing could take up to 6 months. Further details regarding the haul road construction will be provided in the removal design.

4. **Comment:** **Page 11 (Section IA1). In the description of Task 4, please provide additional details on the reasons for which the Navy would not remove all contamination above the cleanup goals.**

Response: The Navy does not anticipate leaving any contamination in place at Site 30 that may pose a risk to human and ecological receptors. Please see the responses to EPA General Comments 1 and 3

5. **Comment:** **<u>Page 13 (Section IA1)</u>. Please present the proposed comparison criteria for the confirmation samples (i.e., maximum concentration values outside the risk footprints) as a table.**

Response: The requested information will be provided on Figure 7 in the final action memorandum.

6. **Comment:** **<u>Page 13 (Section IA1)</u>. The chemical requirements for the backfill material should be included in a table, in addition to citing the source document.**

Response: The chemical requirements for backfill will be included in the removal action design.

7. **Comment:** **<u>Page 14 (Section IA3)</u>. Under Alternative 2, the phrase "could pose a potential risk to human and ecological health" should be revised to include "potentially significant risk" to wildlife species. The baseline ERA in the remedial investigation (RI, 2002) determined that "significant risk" was possible for multiple chemicals and multiple wildlife species. In addition, the ecological effects may occur regardless of the residential or industrial human health scenario. Therefore, the text should be revised to include that Alternative 2 is not protective of the environment under either restricted or unrestricted human health-based scenarios.**

Response: Alternatives 1 and 2 in Section V.A.3. will be revised to in include the phrase, "pose a potential risk to human health and a potentially significant risk to wildlife species"

8. **Comment:** **<u>Page 14 (Section IA3)</u>. In the description of Alternative 3, the on-site disposal cell should be replaced with off-site disposal to be consistent with the alternatives in the Engineering Evaluation / Cost Analysis (EECA, 2004) and the subsequent text on Pages 20 and 21.**

Response: Section V.A.3. describes the alternatives evaluated in the Final EE/CA (SulTech 2005a). While the draft EE/CA (Tetra Tech 2004b) considered three alternatives — no action with monitoring, excavation and on-site disposal, and excavation and off-site disposal — based on comments from the agencies, the final EE/CA considered four alternatives, namely no action, monitoring, excavation and on-site disposal, and excavation and off-site disposal. The text on page 20 will be revised to note that the final EE/CA was circulated to the public for comment in April 2005.

9. Comment: **<u>Attachment A, Figure 6</u>. The use of a logarithmic scale for the y-axis (maximum concentrations) would be helpful given the wide range in concentrations.**

Response: Comment noted. The purpose of the figure is to show that if elevated concentrations of lead are removed, elevated concentrations of other COCs would be removed. Plotting the data on a logarithmic scale does not provide sufficient detail to illustrate this concept. However, Figure 6 has been revised in the final action memorandum to reflect the change in the excavation footprint. Also for DFG information, a revised Figure 6 with the y-axis plotted in a logarithmic scale is attached to these responses to comments.

10. Comment: **<u>Page 19. Section 5.3</u>. Although there may be no action specific ARARs for habitat restoration, a component of the DFG To-Be-Considered guidance for wetlands restoration is the retention of wetland acreage and habitat values. Specific guidance regarding the strategy for this mitigation is provided in Fish and Game Commission policies regarding wetlands.**

Response: This text will be revised to state that for habitat restoration, the 1988 Fish & Game Commission Wetlands Policy is a TBC.

RESPONSES TO WATER BOARD COMMENTS

GENERAL COMMENTS

1. Comment: **The Navy needs to insure that the project meets Water Quality Objectives for chemical pollutants as defined in the 1995 San Francisco Bay Basin Plan. A convenient reference to these objectives is found at: http://www.waterboards.ca.gov/sanfranciscobay/basinplan/web/BP_CH3.html. The wetland waters are defined as an estuarine water body. For waters in which the salinity is between 1 and 10 parts per thousand, the applicable criteria are the more stringent of the freshwater and saltwater criteria unless defensible information and data demonstrate that on a site-specific basis the biology of the water body is dominated by freshwater aquatic life and that freshwater criteria are more appropriate; or, conversely, saltwater criteria are more appropriate.**

Response: Comment noted. Attachment B of the Action Memorandum presents the Navy's responses to comments received from the agencies regarding the draft EE/CA (SulTech 2005a). In Attachment B, please see response to Water Board General Comment 1, which addresses a comment similar to the above comment.

2. Comment: **Please include the Basin Plan as an Applicable Relevant and Appropriate Requirement and state the beneficial uses of surface and groundwater at the site.**

Response: Please see the response to Water Board General Comment 1.

3. Comment: **The Navy needs to insure that equivalent work is performed as would be required at non Federal CERCLA sites. On these properties 404/401 permits applications for sediment laden decant waters discharged into waters of the United States are needed.**

Response: The Navy will comply with the substantive requirements of ARARs that would otherwise require the obtaining of permits. Please see the response to Water Board General Comment 1 and the response to a similar comment the Water Board made (Water Board General Comment 2) on the draft EE/CA in Appendix C the Final EE/CA Report (SulTech 2005a).

4. Comment: **The Navy proposes to store stormwater generated by removal activities at the site. The Navy needs to apply with the Water Board for a construction stormwater permit to insure appropriate handling and disposal of stormwater. Please provide the best management practices to be used at the site to prevent soils erosion and loss of stormwater (prior to treatment) to the surrounding surface waters.**

Response: The Navy does not propose to store water on site. The remedial action plan will detail the best management practices to be adhered to during the removal action. Please see the response to Water Board General Comments 1 and 3.

5. Comment: **The Navy needs to include a section outlining the screening criteria used at the site. The Navy needs to provide the land use scenario, the screening depth, the potability characteristics of groundwater (per SWRCB resolution 88-63) and the surface water input to appropriately screen contaminants at the site. Water Board staff recommends the use of ESLs (Environmental Screening Levels http://www.waterboards.ca.gov/ sanfranciscobay/esl.htm) to appropriately screen for remedial purposes at the site.**

Response: Please see the response to EPA General Comment 3 regarding the screening criteria to be used at the site. Issues regarding the portability characteristics of groundwater (per SWRCB Resolution 88-63) and the surface water input to appropriately screen contaminants at the site have been addressed in the responses to similarly worded comments (Water Board Specific Comments 4 and 7) in Appendix C of the final EE/CA (SulTech 2005a)

6. Comment: **The Navy needs to include in the report a schedule outlining the sediments removal, confirmation sampling and restoration activities at the site.**

Response: The most detailed and currently available schedule is included in the current Naval Weapons Station Seal Beach Detachment Concord Site Management Plan (SMP) which is dated August 25, 2005.

7. Comment: **Water Board staff recommends including a post remedial action monitoring plan in the report to include groundwater and ecosystem health monitoring.**

Response: Please see the responses to EPA Specific Comment 6 and DTSC General Comment 2. Also please see the response to a similarly worded comment (Water Board general comment 4) in Appendix C of the final EE/CA (SulTech 2005a).

8. Comment: **Please indicate in this report that a sampling of sediments and surface water sampling was conducted by Water Board staff in December 2001. This sampling yielded detections of arsenic, copper and lead above screening criteria in sediments at the site.**

Response: This document does not lend itself to that level of detail; however, the Water Board sampling events are appropriately cited in the RI and RI Addendum reports (Tetra Tech 2002, 2004a)

TECHNICAL DEFICIENCIES

1. Comment: **<u>Section IIA4: Release or Threatened Release into the Environment of a Hazardous Substance or Pollutant or Contaminant, p 4</u>:**

- **Water Board staff is concerned by the finding that aluminum, arsenic, copper, mercury and nickel "were detected at concentrations above screening criteria for groundwater, only arsenic and aluminum were notably elevated above screening criteria." Please address the following:**
  - **Clarify which screening criteria were used in this assessment.**
  - **Quantify "notably elevated".**
  - **The Navy states that Aluminum "is not expected to be a concern" due to low mobility under neutral pH conditions. Please clarify if the Navy is referring to the adsorbing capacity of soils or the low seepage velocity of groundwater.**
  - **Water Board staff is concerned by the high detections of metals in groundwater at the site. Please explain if contaminated groundwater could migrate into open wetland waters. The Navy needs to address this impact in order to protect both surface and groundwater qualities.**
  - **Please map the groundwater monitoring wells at the site. Please delineate the extent of contamination using isoconcentration maps. Water Board staff recommends keeping these monitoring points post remedial action to insure that impacts to groundwater are not exceeding applicable water quality criteria.**

Response: The RI (Tetra Tech 2002) and RI addendum (Tetra Tech 2004a) appropriately address the above issues.

2. Comment: **<u>Section IIB1: Previous Actions, p 5</u>: List the detections of petroleum made in soils and sediments at the site.**

Response: Table 4 of the Final EE/CA (SulTech 2005a) and draft EE/CA listed the detections of petroleum in soils and sediments at the site.

3. Comment: **<u>Section VA1: Description of Proposed Action, p 12</u>:**

- **Indicate how the sampling grid will be designed in guiding the confirmation samples.**
- **Explain how the 268 mg/kg lead concentration in soils/ sediments was determined as the risk threshold for the site's ecological receptors. Water Board staff recommends using the 150 ppm California Modified PRG (Preliminary Remedial Goal).**
- **p 13: Due to the detection of TPH (Total Petroleum Hydrocarbons) made in sediments and soils at the site, Water Board staff recommends analyzing for these contaminants in confirmation samples.**
- **Provide a map showing the post excavation topography.**

Response: The sampling grid's primary function is to ensure that an appropriate number of confirmation samples are collected in order to confirm the reduction of risk at the site. A more detailed discussion of the sampling grid and planned post excavation topography will be provided in the removal action design. The 268 mg/kg of lead is the maximum concentration detected during former sampling events at locations outside the risk footprint. Please see the response to a similarly worded comment (Water Board Specific Comment 1) in Appendix C of the final EE/CA. Table 4 of the Final EE/CA (SulTech 2005a) indicates that all TPH detected are within the excavation footprint. Also please see the response to EPA General Comments 1 and 3.

4. Comment: **<u>Section 5.1: Chemical Specific Applicable or Relevant and Appropriate Requirement, p 16</u>: In the event the Navy is planning to screen using an industrial/commercial land use scenario, the Navy needs to prepare a Land Use Covenant to restrict any future residential development until future characterization and risk assessment work is performed towards changing land use to residential.**

Response: Please see the response to a similar comment (Water Board Specific Comment 7) in the final EE/CA (SulTech 2005a).

5. Comment: **<u>Section IX: Recommendation, p 21</u>:**

- **Please state in this section that Alternative III is the option chosen by the Navy.**
- **The Navy needs to clarify how the action memorandum document is integrated within the CERCLA documentation process.**

Response: This section will be revised to state that Alternative IV (excavation, off-site disposal and habitat restoration) as stated in the final EE/CA is the chosen option. Page 1 of the action memorandum outlines the purpose of the action memorandum. The Navy refers the Water Board to the following sites for EPA guidance that provides clarification of how the action memorandum fits into the CERCLA documentation process.

http://www.epa.gov/superfund/resources/remedy/pdf/memofeb2000-s.pdf
http://www.epa.gov/superfund/resources/remedy/pdf/540f-94009-s.pdf

6. **Comment:** **<u>Figure 5, Estimated Risk to Assessment Endpoint Receptors Taylor Boulevard Bridge Disposal Site</u>: Lead isoconcentrations contours showing the extent of the site-specific risk footprint of 268 mg/kg along with footprint if the Cal-Mod lead soil PRG of 150 mg/kg should be drawn together for comparison on an updated map.**

Response: A revised excavation footprint will be established at the site. Please response to EPA General Comment 1. Figure 5 in the final action memorandum has been revised to show this change. Based on the revised footprint, the only location outside of excavation footprint that would not have been captured by a 150 mg/kg lead isoconcentration contour is SS-214. This location has a lead concentration slightly above the 150 mg/kg Cal-modified PRG and posed no risk to any receptor evaluated in the RI (Tetra Tech 2002). Also please see the response to a similarly worded comment (Water Board Specific Comment 8) in Appendix C of the final EE/CA.

RESPONSES TO IGOR SKAREDOFF (RAB MEMBER) COMMENTS

1. Comment: **Executive Summary - there is none. An Ex Sum would be very helpful, as it is not until one gets to page 10 that the proposed action is mentioned. Knowing this in the beginning would greatly expedite review efficiency.**

Response: The Navy template for preparing an action memorandum does not include an executive summary. However, the document can certainly benefit by having one. An Executive Summary will be included in the final action memorandum.

2. Comment: **Task 7 pg 13 says: "The vegetation will be restored using plants from an off-site nursery." I presume & hope that the plants will be appropriate California natives? If so, would be good to specify as such.**

Response: The cost for habitat restoration as outlined in the EE/CA assumes the use of California native plants. As noted in Appendix B of the final EE/CA (pages B-9 and B-12), during the development of the EE/CA, the Navy obtained a quote for habitat restoration using California native plant species from Pacific Open Space Inc, a nursery that specializes in California native vegetation.

3. Comment: **Estimated costs pg 20 shows a total cost of $306,500 for Site Restoration of which 2/3 is "oversight" and the remaining 1/3 is all the actual work and materials. This seems to be quite high. (Twice as much for supervision as for the labor & materials?).**

Response: Oversight costs include the preparation of the removal action design as well actual removal action supervision.

REFERENCES

Navy . 2002. "Integrated Natural Resources Management Plan and Environmental Assessment, Naval Weapons Station Seal Beach Detachment Concord, California. March.

Tetra Tech EM Inc. (Tetra Tech). 2002. "Draft Final Remedial Investigation for Taylor Boulevard Bridge Disposal Site, Tidal Area, NWS SB, Detachment Concord." January 31.

Tetra Tech . 2004a. "Remedial Investigation Addendum Report for the Taylor Boulevard Bridge (Site 30), NWS SB, Detachment Concord." June.

Tetra Tech . 2004b. "Draft Engineering Evaluation/Cost Analysis Non-Time Critical Removal Action for Taylor Boulevard Bridge (Site 30), NWS SB, Detachment Concord." June 27.

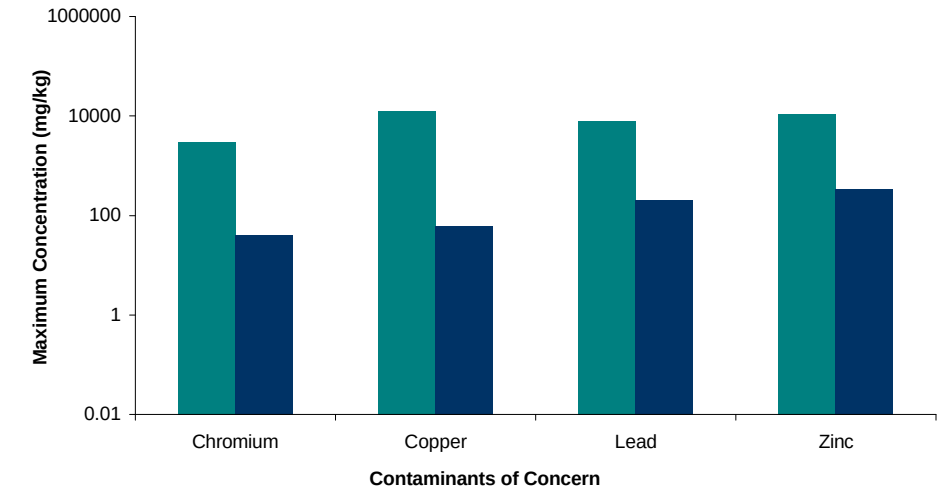
SulTech. 2005a. "Final Engineering Evaluation/Cost Analysis Non-Time Critical Removal Action for Taylor Boulevard Bridge (Site 30), NWS SB, Detachment Concord." March 28.

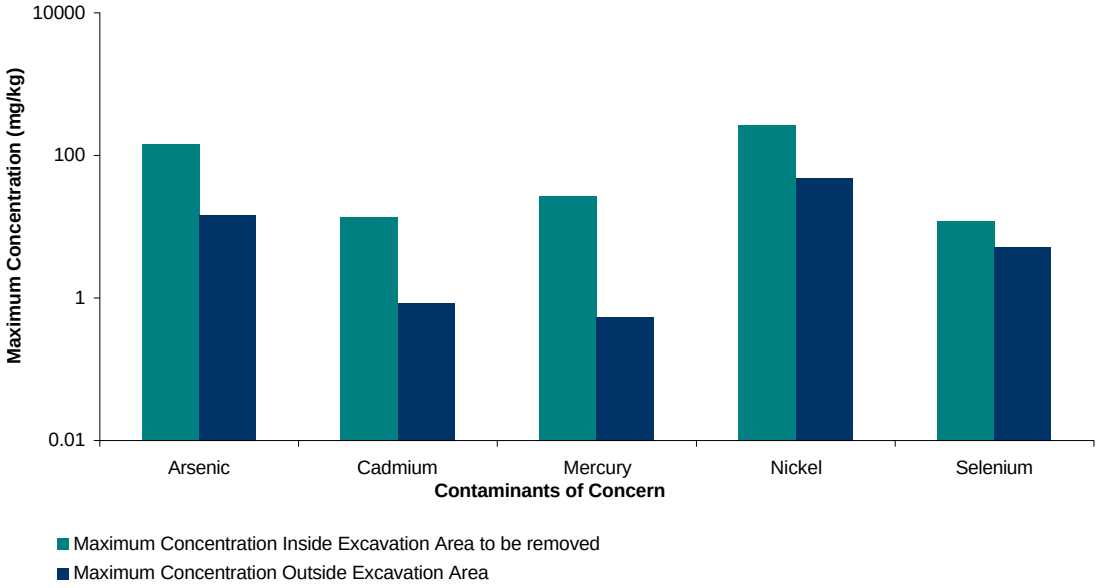
SulTech. 2005b. "Draft Action Memorandum for Taylor Boulevard Bridge Disposal Site (Site 30), NWS SB, Detachment Concord." June 30.

U.S. Environmental Protection Agency (EPA). 1988. "Superfund Accelerated Cleanup Model." EPA 540-R-98-025. Office of Policy, Planning and Evaluation. Washington, DC. February.

EPA. 1989. "Methods for Evaluating the Attainment of Cleanup Standards. Volume 1: Soils and Solid Media." EPA 230/02-89-042. Office of Policy, Planning and Evaluation. Washington, DC. February.

EPA. 2002. Final Record of Decision Macalloy Corporation Charleston, South Carolina. August 21.





Naval Weapons Station Seal Beach Detachment
Concord, California
Naval Facilities Engineering Command, Daly City, CA

FIGURE 6
REMOVAL OF CHEMICALS OF CONCERN COLLOCATED WITH LEAD
ACTION MEMORANDUM
FOR THE TAYLOR BOULEVARD BRIDGE (SITE 30)

ATTACHMENT D
PCB SAMPLING RESULTS FOR TAYLOR BOULEVARD BRIDGE DISPOSAL SITE (SITE 30) NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
INTEGRATED PRODUCT TEAM WEST
2001 JUNIPERO SERRA BOULEVARD, SUITE 600
DALY CITY, CALIFORNIA 94014-1978

IN REPLY REFER TO:

Ser 05/685
September 21, 2005

Mr. Phillip A. Ramsey
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: RESULTS OF POLYCHLORINATED BIPHENYLS (PCB) ANALYSES OF PERIMETER SEDIMENT SAMPLES TAYLOR BOULEVARD BRIDGE (SITE 30), NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA

Dear Mr. Ramsey,

The Navy is pleased to provide you with the enclosed results of the polychlorinated biphenyls (PCB) analyses performed on five sediment samples collected on July 15, 2005 from the perimeter of Site 30, the Taylor Boulevard Bridge disposal area. For convenience, a figure is also enclosed depicting the results for each sampling location.

The samples were collected and analyzed for PCB as requested by the U.S. Environmental Protection Agency (EPA) in your letter of August 26, 2004 that provided comments on the Navy's *Draft Final Remedial Investigation Addendum Report for the Taylor Boulevard Bridge (Site 30), Naval Weapons Station Seal Beach, Detachment Concord, Concord, CA* (24 June 2004). EPA's letters of January 26, 2005, and May 5, 2005, submitted in response to the Navy's Draft and Final versions of the Site 30 Engineering Evaluation and Cost Analysis (EE/CA), respectively, repeated this request for "pre-excavation" PCB testing.

The results show that PCB were not detected in two of the samples, and detected at only trace concentrations (very near the method limits) in the other three samples. Based on these results, the Navy believes the proposed removal action adequately addresses any concern related to PCB.

2. If there are any questions regarding the enclosed results, please contact me at telephone No. 650-746-7451 or Internet e-mail: stephen.f.tyahla@navy.mil.

Sincerely,

Stephen F. Tyahla, P.E., CHMM
Lead Remedial Project Manager

Enclosures

September 21, 2005

Re: RESULTS OF POLYCHLORINATED BIPHENYLS (PCB) ANALYSES OF PERIMETER SEDIMENT SAMPLES TAYLOR BOULEVARD BRIDGE (SITE 30), NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CONCORD, CALIFORNIA

Copy to:
U.S. Environmental Protection Agency, Region 9 (Attn: Sonce de Vries)
National Oceanic and Atmospheric Administration (Attn: Denise Klimas)
National Oceanic and Atmospheric Administration (Attn: Laurie Sullivan)
U.S. Fish and Wildlife Service (Attn: Dan Welsh)
California Department of Toxic Substances Control Region 1 (Attn: Jim Pinasco)
California Regional Water Quality Control Board, SFBAY (Attn: Laurent Meillier)
California Department of Fish and Game (Attn: Frank Gray)
Contra Costa County Environmental Health, LEA (Attn: Agnes T. Vinluan)
Cal/EPA Integrated Waste Management Board Permitting & Enforcement Division (Attn: Frank Davies)
Restoration Advisory Board (RAB) Co-Chair (Attn: Ms. Mary Lou Williams)
RAB Member Lisa Anich
RAB Member Kevin Cornish
RAB Member Dwayne Dalman
RAB Member David Griffith
RAB Member Gregory Glaser
RAB Member Jessica Hamburger
RAB Member Mario Menesini
RAB Member Igor Skaredoff
Tech Law, Inc. (Attn: Kimberly Walsh)
NWS Seal Beach, N45WS (Attn: Margaret Wallerstein)
NWS Seal Beach, N09WS (Attn: Gregg Smith)
EFD Southwest (3) (Diane Silva- Admin Record/IR/Base copy)
TtEMI San Francisco (Attn: Joanna Canepa)
TtEMI San Francisco (Attn: Cindi Rose)

Definition of Acronyms

J	Estimated
P	Indicates that the percent difference between the quantitation and confirmation column was above the laboratory quality control criteria
MRL	Method reporting limit
MDL	Method detection limit
Q	Qualifier
ug/Kg	Microgram per kilogram

Client: Tetra Tech EM, Incorporated
Project: TBB PCB Sampling/CTO 340
Sample Matrix: Soil

Service Request: K0502074
Date Collected: 07/15/2005
Date Received: 07/18/2005

Polychlorinated Biphenyls (PCBs)

Sample Name: SS301
Lab Code: K0502074-001

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	11	2.7	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1221	ND	U	21	2.7	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1232	ND	U	11	2.7	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1242	ND	U	11	2.7	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1248	ND	U	11	2.7	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1254	**8.4**	J	11	2.7	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1260	**7.2**	J	11	2.7	1	07/20/05	07/26/05	KWG0511998	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	69	20-161	07/26/05	Acceptable

Comments:

Client: Tetra Tech EM, Incorporated
Project: TBB PCB Sampling/CTO 340
Sample Matrix: Soil

Service Request: K0502074
Date Collected: 07/15/2005
Date Received: 07/18/2005

Polychlorinated Biphenyls (PCBs)

Sample Name: SS302
Lab Code: K0502074-002

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	34	4.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1221	ND	U	68	4.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1232	ND	U	34	4.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1242	ND	U	34	4.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1248	ND	U	34	4.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1254	ND	U	34	4.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1260	ND	U	34	4.5	1	07/20/05	07/26/05	KWG0511998	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	41	20-161	07/26/05	Acceptable

Comments:

Client: Tetra Tech EM, Incorporated
Project: TBB PCB Sampling/CTO 340
Sample Matrix: Soil

Service Request: K0502074
Date Collected: 07/15/2005
Date Received: 07/18/2005

Polychlorinated Biphenyls (PCBs)

Sample Name: SS303
Lab Code: K0502074-003

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	14	3.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1221	ND	U	27	3.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1232	ND	U	14	3.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1242	ND	U	14	3.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1248	ND	U	14	3.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1254	**14**	J	14	3.5	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1260	**12**	J	14	3.5	1	07/20/05	07/26/05	KWG0511998	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	64	20-161	07/26/05	Acceptable

Comments:

Client: Tetra Tech EM, Incorporated
Project: TBB PCB Sampling/CTO 340
Sample Matrix: Soil

Service Request: K0502074
Date Collected: 07/15/2005
Date Received: 07/18/2005

Polychlorinated Biphenyls (PCBs)

Sample Name: SS304
Lab Code: K0502074-004

Units: ug/Kg
Basis: Dry

Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	31	8.1	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1221	ND	U	62	8.1	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1232	ND	U	31	8.1	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1242	ND	U	31	8.1	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1248	ND	U	31	8.1	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1254	ND	U	31	8.1	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1260	ND	U	31	8.1	1	07/20/05	07/26/05	KWG0511998	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	64	20-161	07/26/05	Acceptable

Comments:

Client: Tetra Tech EM, Incorporated
Project: TBB PCB Sampling/CTO 340
Sample Matrix: Soil

Service Request: K0502074
Date Collected: 07/15/2005
Date Received: 07/18/2005

Polychlorinated Biphenyls (PCBs)

Sample Name: SS305
Lab Code: K0502074-005

Units: ug/Kg
Basis: Dry

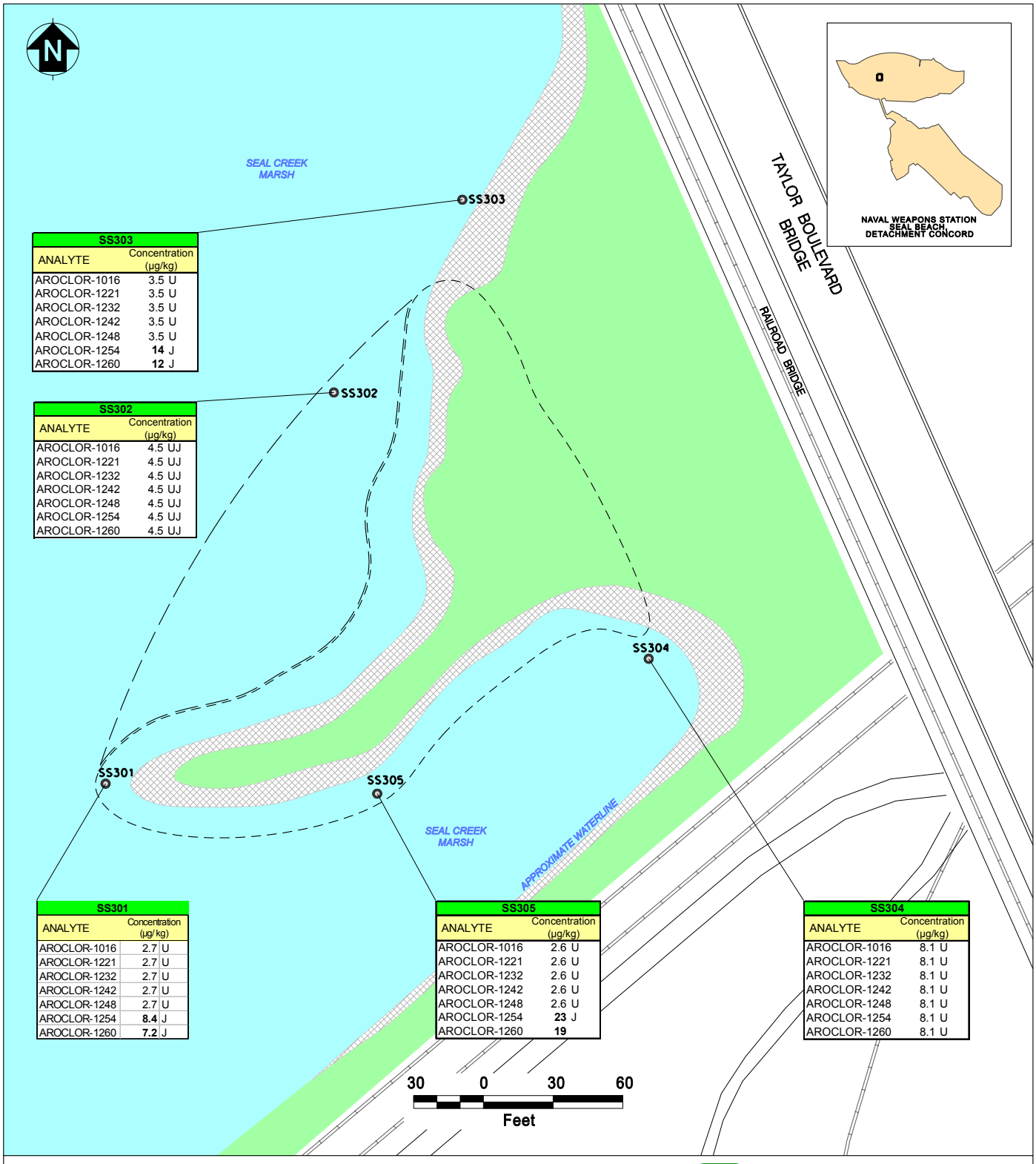
Extraction Method: EPA 3541
Analysis Method: 8082

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.8	2.6	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1221	ND	U	20	2.6	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1232	ND	U	9.8	2.6	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1242	ND	U	9.8	2.6	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1248	ND	U	9.8	2.6	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1254	**23**	P	9.8	2.6	1	07/20/05	07/26/05	KWG0511998	
Aroclor 1260	**19**		9.8	2.6	1	07/20/05	07/26/05	KWG0511998	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	64	20-161	07/26/05	Acceptable

Comments:



SS303	
ANALYTE	Concentration (µg/kg)
AROCLOR-1016	3.5 U
AROCLOR-1221	3.5 U
AROCLOR-1232	3.5 U
AROCLOR-1242	3.5 U
AROCLOR-1248	3.5 U
AROCLOR-1254	**14** J
AROCLOR-1260	**12** J

SS302	
ANALYTE	Concentration (µg/kg)
AROCLOR-1016	4.5 UJ
AROCLOR-1221	4.5 UJ
AROCLOR-1232	4.5 UJ
AROCLOR-1242	4.5 UJ
AROCLOR-1248	4.5 UJ
AROCLOR-1254	4.5 UJ
AROCLOR-1260	4.5 UJ

SS301	
ANALYTE	Concentration (µg/kg)
AROCLOR-1016	2.7 U
AROCLOR-1221	2.7 U
AROCLOR-1232	2.7 U
AROCLOR-1242	2.7 U
AROCLOR-1248	2.7 U
AROCLOR-1254	**8.4** J
AROCLOR-1260	**7.2** J

SS305	
ANALYTE	Concentration (µg/kg)
AROCLOR-1016	2.6 U
AROCLOR-1221	2.6 U
AROCLOR-1232	2.6 U
AROCLOR-1242	2.6 U
AROCLOR-1248	2.6 U
AROCLOR-1254	**23** J
AROCLOR-1260	**19**

SS304	
ANALYTE	Concentration (µg/kg)
AROCLOR-1016	8.1 U
AROCLOR-1221	8.1 U
AROCLOR-1232	8.1 U
AROCLOR-1242	8.1 U
AROCLOR-1248	8.1 U
AROCLOR-1254	8.1 U
AROCLOR-1260	8.1 U

Tetra Tech EM Inc.

DETACHMENT CONCORD

2005 PCB SAMPLING LOCATION

Scattered Surface Debris

Primary Surface and Subsurface Debris Area

Shoreline: Approximate Seasonal Water Level Variations

Notes:

J - Estimated
U - Nondetect
µg/kg - Micrograms per kilogram

FIGURE 1
CONCENTRATIONS OF PCBs IN SOIL

TtEMI-SF 10/12/2005 J:\concord1\dgn\AECRU\DO045\Fig_PCB_Aroclor.dgn

0105B340 110606

Tetra Tech EM Inc.
San Francisco Office

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San Francisco. CA 94105
415-543-4880
Fax 415-543-5480

KOSO 2074

Chain of Custody Record No. 3921

Page 1 of 1

Project name: TBB PCB SAMPLING	Lab PO#: 05KAP0026	Lab: COLUMBIA ANALYTICAL
Project (CTO) number: 340	TtEMI technical contact: SARA WOOLLEY	Field samplers: TARA SWEET, XAVIER FERNANDEZ
	TtEMI project manager: JOHN BOSCHE	Field samplers' signatures:

3921

Sample ID	Sample Location (Pt. ID)	Date	Time	Matrix	MS / MSD	No./Container Types: 40 ml VOA	1 liter Amber	500 ml Poly	Sleeve	Glass Jar	Preservative Added	Analysis Required: VOA	SVOA	Pest/PCBs	Metals	TPH Purgeables	TPH Extractables	PCBs
SS301		7/15/05	0847	Soil						X								X
SS302			0815															
SS303			0752															
SS304			0902															
SS305			0832															

	Name (print)	Company Name	Date	Time
Relinquished by:	tara sweet	TtEMI	7/15/05	1200
Received by:	A PAYNTER	CAS	7/16/05	1000
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

Turnaround time/remarks:

Fed Ex #:

WHITE-Laboratory Copy YELLOW-Sample Tracker PINK-File Copy